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THE
AMERICAN JOURNAL
OF
PHOTOGRAPHY
AND THE
ALLIED ARTS & SCIENCES.

CHARLES A. SEELY, A. M., EDITOR.

New Series.—Vol. I.

1858-9.

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THE AMERICAN
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[NEW SERIES.]

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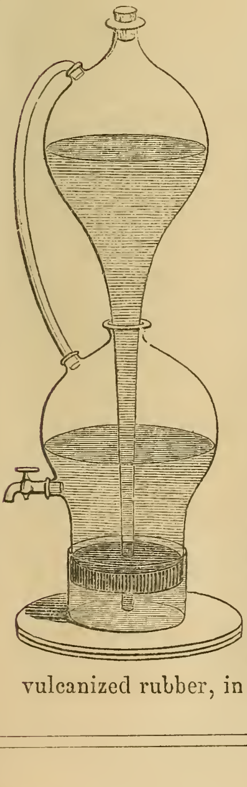
MR. DIXON'S COLLODION FILTER.

BY THE EDITOR.



THE very neat apparatus represented in the engraving is the invention of Mr. Joseph Dixon, the well known manufacturer of black lead crucibles.

The apparatus consists of three principal parts or pieces blown from glass, viz: The pear-shaped funnel, the balloon-shaped reservoir of filtered collodion, and the cylinder-shaped reservoir of unfiltered collodion at the bottom. The filtering material, cotton paper or sand, is represented by the dark band at the bottom of the balloon. The parts of the apparatus are carefully adjusted to each other, and fitted air-tight by being ground, or by suitable packing.

The operation of the filtering will now be readily understood. The collodion is introduced in the opening at the top of the apparatus, passes down the funnel tube into the lower reservoir, upward through the filter, into the balloon from which it may be drawn off by the stop-cock The air in the pear-shaped funnel is connected with the air in the balloon by means of a tube of glass or vulcanized rubber, in order to equalize the pressure.

The advantages of this method of filtering are that inasmuch as the liquid passes upward through the filter, the filter will not so easily get foul, and that, the whole liquid being confined, nothing will be lost.

The contrivance has been in successful use for several months

WHO MADE THE FIRST PHOTOGRAPHIC PORTRAIT?*

BY DR. JOHN W. DRAPER.

University, New York, May 3d, 1858.

Gentlemen:

Your letter of April 29th has only just come into my hands, owing to my absence from the city for a few days. In answering it I cannot refrain, in the first place, from expressing surprise that any question should arise respecting priority in taking Photographic portraits. It will soon be twenty years since I took the first one, and during that time I have uniformly laid claim thereto in various publications,—in my chemistry, which is commonly used as a text book in schools and colleges, in the Philosophical Magazine, in lectures, and in various other ways,—and I have not learnt that there was any question upon the point. I will however, without any hesitation, furnish you with such facts as you ask for, and shall also be happy to give you any further explanations which your proposed enquiries may appear to render necessary.

It will shorten very much what I have to say, if you will refer to an article published in Mr. Snelling's Photographic Journal for December, 1854, p. 381. It contains a short statement of my early connection with Photography. From it you will learn that for nearly ten years before any one in America had turned attention to the subject, I had been occupied with the chemical effects of light, and had published in the Journal of the Franklin Institute and elsewhere, a good deal in relation to it.

For years before either Daguerre or Talbot had published anything on the subject, I had been in the habit of using sensitive paper for investigations of this kind. It was thus as you will find by looking into the Journal of the Franklin Institute for 1837, that I had examined the impressions of the solar spectrum, proved the interference of the chemical rays, investigated the action of moonlight and of flames, either common or colored, red or green, and also the effects of yellow and blue solutions, and other absorbing media. You will notice that in these experiments I was using the preparations of bromine, about which so much has of late been said. The difficulty at this time was to fix the impressions. I had long known what had been done in the copying of objects by Wedgewood and Davy, had amused myself with repeating some of their experiments, and had even unsuccessfully tried the use of hyposulphite of soda, having learnt its properties in relation to the chloride of silver from Herschel's experiments, but abandoned it because I found it removed the black as well as the white parts. This want of success was probably owing to my having used too strong a solution, and kept the paper in it too long.

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* The letter of Dr. Draper is the answer to the request of the Committee of the American Institute, for information on the subject discussed. For the origin of the correspondence see "Photography at the American Institute," p. 11.—[*Ed.*

To come to the point of your more particular enquiry,—When Mr. Talbot's experiments appeared in the spring of 1839, they, of course, interested me greatly, as having been at work on the action of light for so many years. I repeated what he published and varied it. This was whilst I was professor at Hampden Sidney College in Virginia, and before anything had been published by Daguerre. I tried to shorten the long time required for setting the picture of a house or a tree, by using lenses of large aperture and short focus, and this was the germ from which the art of portraiture eventually arose. I may mention among such experiments that, not being able to get a lens of aperture enough to suit me, I tried a reflecting mirror or rather a reflecting telescope belonging to that college, and I presume, is there still. It was a Gregorian one, the mirror from four to five inches aperture and perhaps 3½ feet focus. (I speak from recollection not having seen it for nearly twenty years). My plan was to protect the small mirror from injury by putting in front of it a piece of a cigar box the size of a cent, on which the bromine sensitive paper was fastened. I expected to be able to focus by looking through the hole in the great mirror and moving the little one by hand, but on trial found it unmanageable and not answering so well as the common refracting camera. Nevertheless I could get images of any brightly illuminated object, though too large and too faint. There was no difficulty in getting the outline of a part of a person standing against a window, but then it was a silhouette and not a portrait, like those spoken of in Mr. Talbot's paper.

It was during my repetitions of Mr. Talbot's experiments that I recognized the practical value of the experiments I had made in 1835, and published in 1837 respecting the chemical focus of a non achromatic lens, and saw that the camera must be shortened in order to obtain a sharp picture. It is the experiment of passing a cone of light through a known aperture on sensitive paper. It was from considering the difficulty of getting an impression from colored surfaces as red or green, that I saw the necessity of enlarging the aperture of the lens, and diminishing its focus, so as to have the image as bright as possible ; for it was plain that in no other way landscapes could be taken or silhouettes replaced by portraits. And when I had failed altogether in these particulars, I knew it was owing to insufficient sensitiveness in the bromine paper, and waited anxiously for the divulging of Daguerre's process, respecting which statements were beginning to be made in the newspapers.

The first that I knew of the particulars of Daguerre's process was the publication of it in the London Literary Gazette, which contained Arago's report of the meeting of the Academy of Sciences on Aug. 19th, and this I saw at the time of its arrival in New York. I do not recollect the date, but it strikes me it must have been in September. However it would be very easy to ascertain by looking in the newspapers of that time. I bought at once some of the common silver-plated copper, and next day tried Daguerre's process. I believe I was at that moment the only person in America who had any practical skill in experiments with light, but then I had had ten years' experience in such matters. Those of you who know the failures and disappointments incident to photographic experiments, can appreciate thoroughly the value of such a schooling, in a delicate operation like Daguerre's. I succeeded with no other difficulty than the imperfection of the silverplating in copying brick buildings, a church, and other objects seen from my laboratory windows

I now returned to the attempts at portraiture, and upon the principles I had already ascertained before the publication of Daguerre, resorted to a lens five inches in diameter and seven inches focus, which I still have. I dusted the face of the sitter with flour and pushed the back of the camera to the violet focus. At this time I did not understand well the manner of illuminating the object, and making the trial in a room, succeeded however in getting an impression, but observing that the dark parts of the clothing impressed themselves, I saw it was altogethor unnecessary to whiten the face, and on trial found that the forehead and cheeks and chin on which the light fell most favorably, would come out first. By increasing the illumination and prolonging the time I could get the whole countenance. But as you will gather from the size of the lens I used, though it was a combination of a pair of convexes, nothing like a good picture was possible, so I exchanged it for one of four inches aperture and fourteen inches focus. As improvement went on from day to day, I found that a common spectacle glass would answer if the sitter was in the open air, and with such a one fastened into a cigar box I obtained many proofs ; but since it was necessary with such an aperture to use so much light. all the proofs I had obtained were defective about the eyes.

At this stage the problem of portraiture must be considered as solved. It had become a mere question of obtaining a suitable achromatic lens, and good plating. As respects the latter, I had for some time used a piece of pure sheet silver, which answered perfectly while it lasted, but with so often heating it on the spirit lamp it became crystalline, and broke to pieces.

About this time I became acquainted with Prof. Morse, and we subsequently had a building on the top of the University in which we took many portraits, at first with my four inch lens, and then with a French achromatic and French plates which we imported. We also gave instruction to a number of the earlier artists. I could relate to you many interesting incidents of our conjoint trials, disappointments, and eventual success, which would doubtless interest you, but they are perhaps what you are not looking for now.

In March, 1840, I sent a note to the editors of the London and Edinburgh Philosophical Magazine, mentioning my success in solving the problem of portraiture, and in September the same year published a detailed account of the whole operation. I had sent to Europe, in the meantime, specimens, and had received letters of acknowledgement.

In 1840 I was informed that Mr. Wolcott had succeeded in making an elliptical mirror of seven inches aperture and fifteen or eighteen inches focus, and had obtained portraits with it. I alleged against it the limited size of the plate that could be worked, the impossibility of preventing its being stained in an open camera, its unfavorable position in front of the mirror, though admitting its advantage in correcting the lateral inversion of the image. But some years subsequently, one of his instruments coming into my possession, I found that I had been altogether misinformed as to his success in producing an elliptical mirror. It was only spherical, and was not as good as the telescope mirror I had myself used and rejected in making silhouettes. I do not think that any of those instruments are now employed, and believe that in the present state of mechanical art, even at this day, no one can grind and polish a piece of metal of such dimensions, to that figure, as was then asserted.

From what I have said you will therefore gather that my connection with portraiture dates back to the summer before the publication of Daguerre's process, and that both as respects the use of mirrors and lenses, that I met with various partial successes, but that within a day or two after the Daguerreotype was made known here by the London Literary Gazette, I had accomplished the object. If there is any question of priority it must be reduced to a few hours, and when your inquiry comes to that, I think you will find a reliable guide in ascertaining whether there was any one in the United States known, by the publications he had before that time put forth, to have the necessary practical skill in these manipulations to bring such a delicate operation as Daguerre's to a successful result without hesitation, and to apply it in a case in which Daguerre himself had failed.

Photographic portraiture, as we understand it, implies the use of a lens of large aperture and short focus, it implies a knowledge of the correction for the chemical focus, and perhaps the use of bromine. All these things I knew before the name of Daguerre was mentioned on this side of the Atlantic, having been occupied with experiments on the chemical action of light for ten years. How any doubt can be now entertained as to who took the first portrait, passes my comprehension.

Yours truly,

J. W. Draper.

Messrs. Stetson, Cohen, Seely,
Committee of Mechanics' Club.

NEW METHOD OF RECTIFYING THE NITRATE BATH.

BY THE EDITOR.

Acid is considered by many as the sovereign remedy for a foggy bath. But there are cases when the use of acid is impracticable, and indeed totally ineffective In my own experience I have had little trouble from a foggy bath, and

I believe that the causes which produce that mishap may always be prevented. Fogginers may generally be traced to carelessness of the operator, impurity of chemicals, or unsuitableness of the material of the containing vessel. Yet the evil is common, and a cure is sought by many.

The new remedy I propose is the exposure of the nitrate solution in a colorless glass bottle to the sunlight. The first trial of this method was made about four months since, and with such success that I have recommended it to correspondents and others in all cases where acid would not immediately be effectual. In every case the trial has been satisfactory. When all other remedies failed this succeeded.

The theory is evident. By the action of light the nitrate of silver destroys and precipitates the injurious organic matter. When the operation is complete the solution is perfectly colorless, and devoid of smell. The time required for the exposure would evidently depend upon the condition of the bath and intensity of the light. Probably one week would be sufficient for any case that might happen. If the impure bath is already acid it should be made neutral by carbonate of soda or potash, before the exposure.

From the London Times.

A NEW DRY COLLODION PROCESS.

Having lately made a series of experiments to find out some less complicated process than any at present in use for preserving the sensitiveness of collodion plates, I have discovered one which is so simple that I venture to hope you will deem it of sufficient value to the photographic world, to give it publicity in your widely circulating Journal.

The plate, being collodionized and sensitized in the usual manner is washed, with rain water, and after draining for about half a minute, I pour on the collodion film some plain albumen, which has been obtained by the well beating up the white of one egg with a quarter of an ounce of water, and allowing to subside. After half a minute, the albumen is washed off under a gentle stream of rain water, enough remaining in the pores of the collodion to answer the purpose of preserving its sensitiveness. The plate is then allowed to dry, and is fit for use.

The advantages of this process are :—1st. Absence of blisters. 2nd. Absence of bubbles in the albumen, these being washed off with the surface albumen. 3d. The resulting negative is remarkable for softness. 4th. The plate requires only one sensitizing. 5th. With some collodions which will be mentioned in the next number of the Journal of Photography, much less exposure is required than by any other keeping process known to me. 6th. The negative requires only a few minutes in developing by using (after previously moistening the plate) from 1½ to 2 grs. of pyro-gallic acid to the oz. of water, and the usual amount of acetic acid.

The only disadvantage I have yet encountered, and that not often, is a tendency of the developer to get under the film. As yet, however, I have had but one picture slightly impaired but not spoiled by that circumstance, and I think the evil may certainly be prevented by rubbing the edge of the plate after the last washing with the finger dipped in a little albumen. From six to nine drops of liquid ammonia added to each egg seems to increase the sensitiveness of the film. But, at present, I recommend trying the plain albumen. I believe plates may be kept an indefinite period when prepared with care. I have kept some a week without the slightest loss of sensitiveness.

I have the honor of subscribing myself

Yours, obediently,

Thomas Fothergill.

8 Inverness Road,
London, *April 24th.*

AN INCIDENT.

BY W. CAMPBELL.

In photographic rooms curious incidents sometimes occur. The following, which has something of the serio-comic about it, is a veritable case. Being an actor in the piece, I can vouch for every word of it.

Some years ago (we were daguerreotyping then) a visitor presented himself for a picture, he was an Irishman, his brogue and his brogans too, both alike, told his country; we inquired if we could do anything for him, as he seemed to hesitate, and a spasmodic jerking at his hat betrayed a troubled mind. "Sure an do ye take pictures here,"—we said, "we do,"—"An could ye take the picture of my wife." "Oh certainly."—"But she is dead and buried, plase sir." "Ah, indeed!

well ?" (here we had to take back something of our assurance,) no doubt he observed our hesitancy, for his head sunk, and I have no doubt his heart too. " She 's dead and buried sir,"—and his affection appeared about to show itself in a flood of tears. So condoling with him as well as we could, we explained to him the necessity of having the object by us that required our skill. Suddenly a ray of hope seemed to lighten up his features. "An sure sir, plase tell me, can ye take the picture of anything?" "Oh, yes, that is" (here we were very guarded this time) " if the thing you want a picture of is in existence, and we cán get at it." " Ough, an ye can get at it, sure I'll fetch it to ye " So with this he started for the door, but he had not got his hat on before he turned back; "Now," said he very seriously, " ye said ye could take the picture of anything I'll bring." The poor fellow was evidently under the impression that we could only take the picture of the human face, so we assured him that he could bring nothing that we could not take a picture of, and with this he left. He was gone about half an hour, when he returned and brought a basket, and, without saying one word, proceeded to place the contents on the floor; first came a woman's bonnet, then a shawl, a gown came next, a pair of stockings and a pair of shoes emptied the basket, no; not quite, a small parcel carefully laid on one side was next unrolled, and two oranges, one of them half sucked was laid beside the apparel. Amazed, we looked on in silence; there was nothing there we could not take a picture of that was certain.

" Now then" said he, "ye said ye could take a picture of anything I'd bring, them's the old woman's clothes; it's all I've left of her, an' if ye can give me a picture of them I'll be pleased." At first we were at a loss to know if he were really serious, but there was no mistaking that when we looked in his face, so we proceeded to arrange the clothes in as artistic a fashion as our skill and the subject would permit,. We took two pictures, both good, and after colouring them, with an extra touch to the orange, at his own request, he took one, and we kept the other. " Thankee Sir," said he, as he left, " them's all I've got of the ould woman, they're sure to get scattered about, but when I looks at this, I shall think I see my wife. Thankee Sir." And he left, as happy as a heart full of grief would permit.

I have never looked back on this little incident of life without an uncontrolable desire to laugh at the idea of taking a picture of old clothes, but a better nature always rose in stern reproach, an uncomfortable feeling within, with desire to pay great attention to my nose, whilst my eyes kept winking at nothing, appeared to trouble me as if it were a punishment for my ill-timed mirth, and yet I could not—no ! no ! there is no excuse.

The incident wants no comment—he who rightly reads the human heart will understand that poor man's feelings. He who cannot, I sincerely pity him

Jersey City, May 12, 1858.

PHOTOGRAPHY AT THE AMERICAN INSTITUTE.

At the session of the Mechanics' Club of the 14th April, the subject of Photography discussed at the previous meeting, reported in this Journal of April 1, was continued. T. B. Stillman, Esq , Chairman, Hon. H. Meigs, Secretary.

It was explained that owing to the illness of Mr. Dixon, the promised exhibition and discussion of the methods of enlarging photographic pictures would be deferred.

The Chairman extended an invitation to all who had anything of interest pertaining to any branch of Photography, to address the meeting.

Mr. John Johnson gave a detailed history of the early attempts at daguerreotype portraiture, illustrated by the apparatus used in 1840, specimens of pictures, and original documents of that period. He was the Johnson of the firm of Wolcot & Johnson, who commenced their work on the first mention of the daguerreotype in this country. First portrait was made on the 6th or 7th October, 1839. The date was established by entries on the partnership book, of the purchase of chemicals. Under date of March 21st, 1840, he found the entry of money first received for a portrait. Johnson, Sen., sailed for England, Feb. 4th, 1840. Exhibited the American apparatus in London, March 23d. English patents enrolled June 14th. Paid Daguerre £50 for the use of the process, and afterwards £200 for the privilege of using three cameras. Mr Johnson read from journals of 1841, to show that accelerators were then in common use. He explained the methods then used of preparing accelerators and sealing them hermetically in glass bulbs.* Mr. Johnson concluded by offering a resolution to institute enquiries on the early history of the daguerreotype.

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* A specimen of these bulbs may be seen at our office.—[*Ed.*

The action on the resolution was deferred to the close of the meeting.

Mr. T. D. Stetson made some complimentary remarks on Mr. Johnson's process of etching daguerreotype plates for printing purposes. Some prints were exhibited executed in 1843.

Mr. S. L. Tillman thought that no kind of photographic etching could yet compete with the ordinary methods of engraving. In all specimens he had seen there were palpable defects. He called for information on Pretsch's process.

Mr. C. A. Seely explained Herr Pretsch's process in detail. A photographic engraved surface was made up of elevated parts and cavities, corresponding to the lights and shades without the lines or dots of a common engraved plate by which the gradation of shading is produced. This was a radical objection against photographic etching. Yet for some purposes it was fairly competing with handwork. He believed Mr. Dixon (a member of the Institute) had first employed the bi-chromate of potash for photographic printing with ink. Mr. S. continued the discussion of the early history of the daguerreotype, especially in regard to the claim of Dr. Draper.

Mr. H. H. Snelling had held conversations with Professor Morse and Dr. Draper on the question of the first portrait, and believed that neither claimed priority over the other. It was an undisputed fact that Dr. Goddard of Philadelphia, introduced the use of bromine.

Mr. N. G. Burgess was in Paris early in 1840, when the news that daguerreotype portraits were made in America was received with astonishment and doubt.

Mr. T. D. Stetson wished to know something of the present condition of the Art. It was so rapidly progressive that he could scarcely keep pace with the names. What can be done now? For example, in how short a time can a photographic picture be made?

Mr. J. Cady had made daguerreotypes of the ferry boats in motion, so that all parts were as distinct as if taken at rest. The paddles of the wheel, and even drops of water in the air were faithfully depicted. Had frequently made good pictures of stages in motion on Broadway, and men in the act of walking. The pictures were made with what was called Cyrus' Magic Buff. He was one of the very few who succeeded with it. The greatest difficulty at first was in shutting off the light quick enough. He described the ingenious contrivance by which he was enabled to make an instantaneous exposure. These pictures were made about six years since. He believed he could do as well with collodion.

Mr. Tillman thought that the criticism of Dr. Draper's claim was too severe.

Mr. Seely disclaimed any intention, on the part of those who opposed Dr. Draper's claim, of going beyond the question of what credit was due him as an investigator in photography. His reputation as an eloquent lecturer and writer, and able experimentalist was everywhere acknowledged. As to the time of producing a photographic impression, three things are to be taken into account: The light—the lens—the sensitive surface. To produce a picture in the shortest time possible,—use the intensest light, a lens of the largest aperture and shortest focus, chemical substances of the greatest sensitiveness.

Mr. H. Garbanati exhibited an Ambrotype executed by J. D. Davis of Brooklyn at nine o'clock in the evening. The light used was from the burning of photogenic powder.

M. J. S. Jones read from a copy of the London Athenæum just received, a notice of St. Victor's recent researches.

Mr. H. Anthony explained the construction and operation of the solar camera. As to a photographic society, proposed by some of the preceding speakers, he doubted its practicability at present. The practical operators had tried on several occasions to unite. But there was no harmony. Amateurs, he thought, could not spare the time.

Mr. Garbanati was present at the preliminary meeting of the London photographic society. It was largely attended and the deepest interest, almost amounting to enthusiasm, characterized its proceedings. Sir Wm. Newton presided and Robert Hunt was among the secretaries. The meeting had been preceded by a photographic exhibition of the Society of Arts, an organization similar to the American Institute. He strongly urged the formation of a photographic society in New York. (The concluding remarks were listened to with applause.)

The resolution of Mr. Johnson presented in the early part of the meeting, after some modification was passed in the following form:

Resolved,—that a committee of three be appointed to investigate the following questions, and report in detail to the Institute.

1st. Who made the first daguerreotype portrait from life?

2d. To whom is credit due for so improving the process of Daguerre that it became practicable for making portraits from life?

Messrs. T. D. Stetson, L. Cohen, and C. A. Seely were appointed to carry out the provisions of the resolution.

Mr. A. G. Grant urged the formation of a society. He would esteem it a pleasure to communicate anything he might learn in his contemplated trip to Europe.

THE WONDERS OF THE PHOTOGRAPHIC ART.

BY H. GARBANATI.

When first it was noised abroad in the scientific world, that a Frenchman had succeeded in affixing impressions of objects on silver plates, by means of chemical combinations, and that old Sol believing there was nothing new under his dominion, had resolved upon something new himself, and had positively turned engraver, without graver's tools, and by no other means, than shedding his influence over, and casting his rays upon the said silver plates, and thereby decomposing the chemical upon the surface, in exact proportion to the time it was exposed to his full gaze, or rather, slighting it, in proportion to its being shaded from his gaze, and then cunning old dazzler that he is, hiding the secret of his action until the said plate was exposed to the heated vapor of a liquid metal, thus making quicksilver a chorus, and then the fact (exacting task-master as he always was, leaving it for men to puzzle out, and thereby prove their scientific attainments,) that it was only a portion of his light after all, and by no means the full force of his brilliancy, that he allowed to act for their benefit, but that on the contrary, his light possessed certain properties, some of which only could they use in producing photographic pictures, but all of which they might turn to account, by due course of study and trial in the pursuit of their art; that the blue or chemical rays were the rays that acted on the plate, and that if they thought proper to strain out the red or heated rays, or the yellow or radiant rays, just leaving enough for him, "Old Sol," to see what he was about, he would make a picture for them, just as well as with the full force of his powers, and that knowing thus much, when a window or skylight faced a Southern or any other unfavorable aspect, they might just regulate and modify his powers to suit, by using blue tinted glass, and when they wanted to work in rooms supposed to be required dark, that is exclusive of blue and violet rays of light, —they could use yellow glass, or paper, or muslin, and when they wished some warmth, did not wish to exclude warmth, they might use red or white light just as it suited,—Didn't folks begin to wonder and more to wonder what next was to come, and whether they could not have exact portraits of themselves on pieces of silver of at least six inches square, and then when the fugitive impressions of Daguerre and Niepce, were rendered permanent pictures by the result of the study of Fizeau, surely numbers of people began to rush into the art as a business, and several people in cities no larger than New York actually expected to make a living by it, and then when, the use of "Accelerators" and "Any Quicks", and myriads of fancy chemicals enabled its votaries to take excellent impressions of living persons in a few minutes, and next in a few seconds, and trades and factories spring up to supply apparatus and materials to the now living business. and acknowledged permanent branch of art; not then, nor long after then, (though the whole age of the art is youth,) did its practitioners and votaries imagine even the present extent of its attainments much less the future realization of what it is yet to do.

The great impetus to photography was given less than seven years ago by the labours of Frederick Scott Archer, who amidst the many claims and patents for trifling improvements, and often actual practices of his own process, seems almost forgotten, as we judge by the seldomness of the use of his name. And now behold the suddenness with which his process has come into general use, and almost entirely banished the beautiful daguerreotype. Almost every practitioner in the old and new world uses collodion in some form. Negatives on paper are entirely banished, excepting for occasional experiment. Amateurs, and their name is legion with increasing numbers, entirely use collodion, and the results are, most minute and beautiful details of every object of interest, the likeness of which is handed down to posterity, are tablets, or paper portraits and views. Objects still and in motion, clouds and waves, cascades and mountains, torrents, race horses, and ships in full sail, steam boats and fire engines, animalcule and gigantic remains, modern architecture and buried cities, all, all are searched out, and their peculiarities transfixed by the truth-telling camera, and remain as witnesses as what was, is, and ever will be. Now, not an army goes forth to peace-making destructiveness, nor a navy to inflict vengeance or inspire awe, but take their corps of photographers to depict in unlieing traces what was and is ! strength and weakness, defieing and destroyed. Not an exploring expedition for scientific purposes, nor band of savans, or tour of discovery, nor geologists, nor botanists, nor mineralogists, nor any other ists, or other terminating syllables attached to the vocations of curious and prying men, but must have their camera and chemicals, and prove they are not "traveller's stories" they are telling, nor sailors' yarns they are spinning, but veritable and incontrovertable facts they are giving to the world of what is and was, on this habitable globe.

Yet amidst what has been done and is doing, minute things rendered gigantic by megascopic or solar camera, and gigantic minute, by microscopic, it is curious to think of what may yet be done.

I was recently handed two small pieces of glass, in the centre of each was a square dark object, about a quarter inch square ; in the centre of the square, of one of which by dint of close and painful examination, I discovered a speck about one sixteenth inch diameter, which bore somewhat the resemblance to a portrait of a head ; in the other was also a speck about one-eighth inch, and some other very minute specks in the one speck, but which I could not recognize as any particular objects. By holding the first piece of glass up to the light, and looking through a powerful magnifier, I discovered a perfect portrait of about a sixth size, and in the other a group of five equally perfect, of about half size. To what use might not this mode of photographing be put. In war the most elaborate instructions might be carried in a button or head of a pencil case, and the general or secretary of war needs but a magnifying glass to save the use of spies, and men from hanging ; the whole archives of a nation might be packed away in a snuff-box. Had the art been known in the time of Omar, the destruction of the Alexandrian library would not have been a final loss.

EDITORIAL MISCELLANY.

The present issue inaugurates a new era in the career of our JOURNAL.

Out of the experience of publishing six volumes, we have brought many useful things about such business,—knowledge not to be acquired otherwise. It taught us better notions than we had at first, and we desired to put them in practice. Hence the changes—the NEW SERIES,—the starting afresh,—the rejuvination.

We trust the changes will prove to be reforms, and agreeable to all concerned.

It is our chiefest aim to make the JOURNAL worthy of its name —really *American*, and the organ and representative of our Art in the United States. When it has established that character, it will take the highest rank among publications of its class. We believe there is the ability here, which through this JOURNAL may engage the attention of the photographic world. America has been the last to enter the lists, but she may prove nimbler than all her rivals.

The improvement in the mechanical department scarcely needs the comment, that it makes the JOURNAL the most comely of its kind,—thanks to our improved pecuniary resources, and the skill of our printer.

Some of the notions we had of conducting a photographic publication are not changed. We have thought from the beginning that an Art journal should be entirely independent of private and personal interests ; that truth should be told plainly and error exposed without fear. The readers of the six volumes already published, will attest how we have steered clear of our own private affairs, and how boldly we have attacked humbug pretensions in all quarters, never making allusion to individuals except for the interest of the many.

For the future, our friends may expect the same policy on our part with this modification. It is well known that the writer is one of a firm who manufacture photographic materials. We have studiously avoided allusion of any kind to that firm or any of their operations. In some respect by such silence we have not only done them injustice, but the art. The photographic community have unmistakably decided that they are the originators of some valuable improvements in many articles of apparatus and materials designed for their use. We shall deem it proper in future for them to describe in our pages anything originating with them which we deem of service to the public. At the sametime we shall freely open our columns to all other manufacturers, who can communicate anything new and useful. Of course we shall allow no puffing or advertisements.

The editor desires to conduct the JOURNAL in such a way that his other interests shall never appear in it.

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The customary variety of the editorial department—as well as some valuable contributions of correspondents are deferred for want of space.

THE AMERICAN
Journal of Photography.
[NEW SERIES.]

VOL. 1.] JUNE 15, 1858. [No. 2.

ON CASEINE FOR PHOTOGRAPHIC PURPOSES,

BY P. C. DUCHOCHOIS.

To prepare soluble caseine, add about 15 drops of pure sulphuric acid (diluted in one ounce of water) to a quart of skimmed milk; let it stand 10 or 12 hours; collect on a filter the precipitate which is coagulated caseine; wash it three or four times with pure water, and mix it with newly precipitated carbonate of baryta : the acid will soon be saturated and the caseine dissolve in water; then filter the solution and evaporate carefully to consistence of syrup, (or to dryness, if you want to keep it) at a low temperature.

The caseine possesses all the chemical properties of albumen and is isomeric with it.

As a substitute for albumen in photographic preparations I have found the following advantages :

1st. It does not desiccate so completely as albumen, is consequently less liable to scale, to split, and can support a larger proportion of iodide without fear of crystalization.

2d. It coagulates less strongly, and gives a film less tenaceous, more porous, hence proofs more harmonious, and preparations much more sensitive than those of albumen. They are not however as rapid as collodion, but by adding to the caseine some of those substances which give more sensitiveness to albumen, (honey with soluble starch), I have obtained a good negative (in operating with the dry film) in 75 seconds, the collodion requiring one minute.

3d. It is excessively fluid, easily filtered, and always free from those mucous threads which form in albumen.

It is also a very good varnish for collodion-negatives, and can be used to prepare positive paper. Until now I have not been able to coagulate evenly the caseine on glass, having every time a film full of marbling lines, like those which take place on a collodion-film sensitized with a too weak silver-bath, or which does not contain enough pyroxiline.

I think to overcome soon that difficulty.

By uniting caseine with albumen I have obtained perfect proofs as harmonius as those on collodion, and in a time of exposure twice more rapid than on albumen.

The formulæ were ;

A.—		Solution of caseine, as thick as albumen,	3 fluid ounces.
		Albumen, [from duck-eggs]	2 “ “
	Solution of	Pure water,	4 drachmes.
		Honey, crystallized,	50 grains.
		Soluble starch,	15 “
		Iodide of ammonium,	40 “
		Bromide of ammonium,	10 “
		Ticture of iodine, [new]	5 drops.
B.—		Rain water,	4 fluid ounces.
		Nitrate of silver [crystallized]	125 grains.
		Nitrate of zinc, [fused]	70 “
		Acetic acid No- 8,	1½ fluid drach.
C.—		Rain water,	1 quart.
		Acetic acid No. 8,-	1½ fluid drach.
		Gallic acid,	70 grains.
		Pyrogallic acid,	15 “

Solution of nitrate of silver at 4 per cent in water added to the developer in very small quantity when required.

The operations were conducted the same as for albumen.

In the collodion-albumen process of Mr. Taupenot the above formulæ are the best I ever found for sensitiveness of the preparations, cleanliness and beauty of the proofs; never any blistering or rising of the film. The process is therefore a sure one, provided the collodion is not very tenaceous and contractible. I do not hesitate to recommend it in preference to any other. The caseine can also be employed *alone* for dry collodion; here again it is very superior to albumen, gelatine or metagelatine. The caseine solution must be very fluid, so as to filter easily through paper. The modus operandi is absolutely the same as for those processes : wash the sensitized collodion film, let drain a few seconds, pour upon it the caseine, let dry, set, develope.

The preparation of pure dry soluble caseine is not very easy for those not well acquainted with chemical preparations, but I believe it will hereafter be found in any place where photographic chemicals are sold.

New York, May 25th, 1858

A NEW METHOD OF PRESERVING COLLODION PICTURES.

BY E. K. HOUGH.

Ever since the advent of collodion positives, artists and manufacturers have been searching for some means of preserving the finished impression, with undiminished lustre and beauty, against atmospheric influences.

The countless methods with balsam and varnish attest the secret dread with which they commit their "gems of art" to the hands of Time, and their want of entire satisfaction in any "crystal" or "diamond" yet discovered.

With similar motives I have been experimenting in a direction which has not yet been explored, and I take this means of interesting artists, that in many hands, what good there is in it may be fully disclosed.

It is simply the use of plain collodion as a varnish for collodion pictures.

This would seem a paradox, but it is solved by adding seven or eight parts of alcohol to one of ether, in which condition it will not dissolve the dried film, and can be turned on and off, as the sensitive collodion, then left to dry of itself, or be hastened with a gentle heat from a lamp or a stove.

The effects produced are not equal, as yet, to those with good benzine varnish, but in instances where beauty alone is a minor consideration, and the pictures are exposed to rough handling, it is much better, for it will bear any amount of hard usage. Moreover, the fact that the white portions and the high lights are left with undiminished lustre, while all flat and woolly appearances are removed from the shadows, encourages the hope that by some modification or addition, we may be enabled to use it with the best effects for all kinds and sizes of collodion-photographs.

Some of the difficulties to be overcome, are, first the avoidance of a slight changeable coloring of green and red which the finished plates present; and second, the manufacture and preservation of the plain collodion, free from acids, or other agencies, liable to dissolve the reduced silver. The iridescence can be partially removed by adding two or more coatings.

Sufficient has been said to give the general idea, and I should be pleased to hear from any of my brother-artists who have tried this method before, or who shall think it worthy of their attention now.

Chautauque Co., N. Y., May 28th, 1858.

THE NITRATE BATH.

BY THE EDITOR.

The nitrate bath has been the source of the greatest vexation to photographers. It practices upon many the most malicious tricks. It hath a very bad character. Had Shakspeare been a photographer, he scarcely would have written :—

> "Fickleness, thy name is woman."

Many of my photographic friends are always in trouble, although they try to use the greatest care. They take extraordinary pains to procure pure nitrate of silver, and use only distilled water. One day they have the most brillant success, only to blacken the disappointment and despair of the next.

Sometimes the collodion is under suspicion, but it behaves beautifully in the neighbor's bath.* The bath must be put through the routine course of neutralizing and filtration, as tedious as the Thompsonian lobelia and steam, and perhaps to as little purpose.

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* Collodion is a more unstable compound than the silver bath; but being left alone in a bottle, if it is spoiled, the elements of its destruction are within itself. The silver bath in use is constantly gaining or losing something. Collodion will not spoil in a day or a week, if left by itself

Now, there is a reason for everything. Senseless matter has no whims or freaks, except in our imagination. Laws just as inflexible and immutable govern the action of a nitrate bath, making it work well or ill, as the law of gravitation. If we cannot control its action we only display our ignorance or lack of power. Matter is more servile than any slave; we only need to know its capacities, and how to manage it.

I propose to examine a few points in relation to the nitrate bath, in the light of some of the laws which govern its action.

I shall take it for granted that a perfectly compounded nitrate bath is a solution of nitrate of silver in water, saturated with iodide of silver, of a strength adapted to the collodion; all the materials composing it being chemically pure.

It is evident that the original chemical composition cannot be preserved, for by every dip of a collodionized plate, we substitute another nitrate, also add ether alcohol, &c. to it. No doubt, these changes do harm proportioned to their amount. The problem is only to maintain such a chemical constitution as fits the bath for photographic purposes. The solution of this problem requires us to consider :

1st. The varying proportion of nitrate of silver.

2d. The foreign substances introduced into the bath necessarily or otherwise.

The amount of silver at first introduced into the bath is known with certainty. If the bath is to be constantly used with the same collodion, the amount of silver best suited to it must first be used, and the proportion kept up. Some test or measure is evidently needed of the silver abstracted by use. This want was early appreciated and experienced and observant photographers soon learned to judge by the appearance of their pictures, or by the amount of collodion used, if the bath needed strength. This also gave birth to what is called the actino-hydrometer of which thousands have been sold, although a most ridiculous instrument in view of its use. It only indicates properly the proportion of silver in a bath just made, when the information is superfluous. A hydrometer only measures specific gravity. It is a good enough test of a solution of nitrate of silver in water, but the nitrate bath solution is changing in specific gravity more from ether, &c. alcohol introduced, than from variations of the silver. In an old nitrate bath specific gravity is not a reliable test at all for its value. I have always been satisfied that these actino-hydrometers are only useful to those who sell them, and to gratify the vanity of photographers who wish to appear profound, like the solemn doctor with his golden headed cane. The skillful photographer generally needs no instrument. Yet a simple contrivance for estimating exactly the value of a bath is desired by many, and I shall take an early opportunity of describing such a one.

The foreign substances unavoidably introduced into the bath have at first no appreciable effect in working. A very large quantity of nitrates of cadmium-magnesia-potassium, &c. may get in it before they do damage. But the ether alcohol and other organic elements from the collodion soon show themselves one way or another.—Generally a scum on the surface, or a variation of the intensity under development. Finally although the proper proportion of silver has been maintained, fog and all sort of streaking. This ultimate ruin may of course be retarded (but only retarded) for many months.*

But the foreign matter, got in by no necessity, is what generally does the mischief. Sometimes it comes from the containing vessel, especially if of gutta-percha, but more often from dirty plates. A small fraction of a grain of sulphate of iron or hypo-sulphite of soda will disorder a large bath. Is it wonderful that slovenly men have what they call ill luck?

I have discussed my subject briefly, and I am only at a convenient starting point of many diverging paths. These I shall pursue. In future numbers of the Journal I shall endeavor to give: the best means of testing the nitrate bath; the best method of cleaning plates; of removing foreign matter from the bath; of recovering silver from waste solutions.

PROCESSES vs. JOURNALS.

BY H. GARBANATI.

The human mind is a homogenous paradox; some mean men are generous by fits and starts; Steven Girard was one of those. And some generous men are mean. But this is a mere phase and also a digression. Photographers generally are paradoxical and inconsistent, they all have the accumulative spirit,—for dollars. All wish to be A 1, fast sailors in the profession, yet, amidst the eight to ten thousand photographers, taking all branches, employers and employees, not one in ten takes a journal devoted to the interests of their art, though some take all that are published.

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* I have known a bath in constant use, to be servicable for a year.

Says Smith, what do I want with a journal, it only leads me into experiments and bothers me. Now Smith is ingenious, it bothers him,—but then, my dear Smith, some of the experiments are *proven advantages,* will economise your time and material, and enable you to compete with your neighbors But I take as good pictures as any of them.—Unhappy Smith, to think yourself perfection; unambitious Smith, why not surpass them —Smith, your objection is untenable. Says Brown, the various experiments only lead to expense. Now there is some reason in Brown, provided he has no cash to experiment with; provided also none of the experiments are proven facts, provided also that Brown thinks them *mere* experiments. But Brown, my equally dear fellow, you cannot attain perfection without cost even though you—Brown—can do so with it, but look to the advantages, Brown, and see if they do not outweigh the cost. Use your common sense, Brown, and do not try every experiment published, nor take all for granted. Adopt well-tried and reasonable experiments, and avoid quackery, that's it, avoid quackery, or you will be done—Brown. But Jones must have a say, must give his reason why he shall not take in a journal, even at $1.50 per annum, semi-monthly, containing all the useful hints, &c &c. Jones must put his veto on such useless things, they take up his time, bother him, cause him to spend money,—Jones likes money, and will make it, and keep it too.—Don't Jones take tip top pictures? Ask his neighbours. Don't he know all the dodges? What can he, Jones, learn?—Jones was a tailor six months ago, and took to picture-taking because his trade was dull, or he thought picture taking easier.—Yes, what can he learn, his chemicals are in order, and he knows enough now, to venture to buy *cheap* chemicals, why should not an experienced operator try and economize? Jones don't want a journal, not he, when he gets in a "fog" he can puzzle his way out again;—yes, he can *puzzle* his way out.

But Jones, my good sir, if every one supposed himself perfect, there would be no such word as improvement Did Daguerre suppose chemistry had reached the acme of perfection, you would not be practising his art Did mechanics, one hundred years ago, suppose the world knew all it could know about machinery, there would be no steam engines now.

Did Morse expect that lightning performed its functions faithfully, by descending steel tipped rods, at the command of man, and electricity was a very useful fluid, certainly. in shocking batteries and nerves. but there its advantages ended. We should not now be on the eve of talking with our cousins over the water, over the electric wires. Did —— Stop, say Smith, Brown, and Jones, all in a breath, what has that to do with journals? Everything. You, with your pretenses, refuse to subscribe to a journal, yet buy a process. Does a dull practitioner, fancy bi-chloride of mud will give an intensity of tone, he instantly starts on a tour with an accidental picture, to *sell* a "right" to every artist (as he says) througho t the country

Does a sharp fellow read in a foreign journal. that three grains of nothing added to two grains of something, produces a much finer picture, than two grains of nothing, added to three grains of something, he also makes a living by selling formula.

Does "a regular brick" relying on a true aversion of the Profession to taking periodicals, read some really interesting process of positive utility He knows he can make a good thing of it. and seeks a patent from commissioners who know nothing of photography, and Smith, who will be bothered by a journal, Brown who can't afford to make experiments, and Jones, who is a know-everything in the art, pay from three to three hundred dollars for the information known only to "the brick," and the brick *does* make money, yet the really useful hints would surely be published in journals if they had not been already, the quackery have been exploded, and the knowledge obtained, all for a small yearly subscription Nevertheless the Smiths, Browns, and Joneses will buy processes, and eschew journals, though every number will contain the value of each yearly subscription, and save them many dollars, and dolorous feelings. If a journal could be rendered interesting, devoted to the art of catching rats, I should recommend every rat catcher to take it in

PHOTO-LITHOGRAPHY.

BY JOSEPH DIXON.

Mr. Seely—Dear Sir,—In answer to your request, that I furnish you for THE JOURNAL, the facts relative to my experiments in *Photo-lithography*. I have only to say that during my residence in Taunton, Mass., where I was engaged in lithography, &c., I conceived the idea that bichromate of potash might be made available in putting a sketch on the stone which was to be drawn in crayon. ccordingly I covered a lithographic stone with a solution of bichromate and exposed it to the sun, but found no action, as I had hoped to have seen, for the bichromate was unchanged, and readily washed off the stone . I found that I had overlooked the essential ingredient in the compound for securing chemical action, viz : the *organic substance* for the *chromic acid* to act on. Asolution of gum arabic being at hand, as used in lithography, I mixed some with the bichromate and again placed the stone washed over as before, part of which I should have said was hidden from the light in order to watch the progress of the chemical action, and when this had advanced as I thought far enough, the stone was removed and submerged in the water trough, in order to remove the unaltered bichromate when to my astonishment, I observed that the water would run off of some parts readily, while others remained wet. This fact gave place to the idea that as the stone behaved so much like a drawing made with crayon it might possibly print or "take ink." Accordingly I put the stone on the press, and tried to "roll it up," but although the impression was still there, and gave strong indications of its readiness to receive ink, yet it was too faint, or in other words there was not affinity enough to cause the ink to leave the roller. I, therefore, as in the case of feeble transfers, had recourse to the "washing" process This is merely rubbing over the stone a solution of a composition made by mixing wax, soap, ink, &c , and dissolving the mixture in spirits of turpentine. A little of this solution put on a piece of rag is rubbed over the stone with gum water, and when the drawing is thereby blackened, the roller is passed over, when it will be found to have an increased affinity for ink ; or, in technical language, "it comes up well."

Some account of my experiments was published in Taunton and Boston papers in 1840, and in the Scientific American, in 1854 I regret that I am able at present only to furnish you a copy of the latter. Yours respectfully,

JOSEPH DIXON.

Jersey City, *June 7th*, 1858.

[From the Scientific American of April 15th, 1854]

"On reading in a late number of the "Scientific American," of a discovery recently made in France, by which a lithographic stone may be prepared, by the action of light, to print, it occured to me that a description of a process invented by myself, in 1840, may be of some interest to your readers, and perhaps be the means of leading to greater results. My process was simply to polish a stone in the usual way with a fine surface, as for a transfer, and when dry, wash it over in a dark room, with a mixture of bichromate of potash and gum arabic; wipe the superfluous liquor from the stone with a fine soft sponge, and the stone is then prepared for the picture. If put into the camera in this state, as a silver plate is for a daguerrian picture, and left exposed to the light for twenty or thirty minutes, then removed and submerged, face up, in a trough of water, for a few seconds, then rolled up, it will produce a negative picture of the character of a mezotint. This may be afterwards changed to a positive or natural one, by various methods known in the art, such as light biting with acetic acid, washing well in pure water, filling in with "composition wash," then carefully rubbing down the surface to remove the first (light drawn) picture, and the stone is then ready to receive the common preparations of acid and gum, and is soon ready to work. The above will give a general idea of the manner of proceeding; a skillful workman will soon see what will be the best mode of working. In some few trials made at the above period I had very hopeful results, but various other things of more immediate importance occupied my attention and requiring all my time, I laid this subject by until a more convenient season, which has not yet arrived. Seeing no better prospect for resuming it, I have hopes that some one will take it up and perfect it. Before giving the rationale of the process, I will add one variety of my experiments.

I took a small picture of convenient size, varnished or oiled it, in order to render it as translucent as possible; this was laid with the printed side on the prepared stone, and a piece of plate glass on the top, to press the picture into as close contact as possible; the whole was then laid in the sun, and after an exposure of some fifteen minutes, treated as before in the water, &c.

You will readily perceive the causes active in the production of photography. Chromic acid in combination with an organic substance as gum, is rapidly decomposed by the action of light, into green oxyde of chromium, with the destruction of the gum, while the base (potash) is left in the stone. By this operation the gum which resists the ink from the roller is removed and a strong mordant for the ink left in its place. JOSEPH DIXON.

Jersey City, April 3, 1854."

A LETTER FROM BUFFALO.

MR. EDITOR,—You perceive I hail you from another place, being amongst the Buffaloes, and quite a big Buffalo it is, considering how few years ago, what a mere calf it was. Now these Buffalonians are quite good fellows—some of them being expert photographers, and quite a number ardent patrons of the same.—The Buffalo belles—bless them.—How they do sound the praises of good pictures, and "ring" their sweethearts into the galleries to have themselves nicely painted and hung up in frames.

And you, I perceive have made quite a change, come out in a new rig. I used to "rig" you myself, sometimes, about certain typographical errors, but you seem determined to cut my cloth, and spoil my sport.

Amongst your changes you seem to have almost entirely banished the fruits of foreign gardens, and now cultivate your own, and what is more, every gardener hangs his own name over his production. If this is not a "presto change" a metamorphosis quite, with better paper, better type, better workmanship, and original articles of home manufacture, I am no judge of matter.

But if this is a rule you have established, farewell to my native modesty. I must "show" or be obscured, the latter I will risk, and venture this log on the literary waters to see if it will be taken in tow. Talking of being obscured, I see you have made the "camera obscura" a camera obscured. Your megescopic not only obscures the "mammoth," but is itself obscured, doing its work in the dark. By the way, I see there is another "journal" besides yours which has a vast correspondence from all parts of the United States, done up in New York, said questions being carefully compounded, that the answers may be filled with deprecations on neighbours, or nauseating self eulogies on quack nostrums for the beautifying of all ugly pictures, and the furnishing of the balm of universal life to the otherwise fadeable and perishable, is quite typical of its proprietor. Neighbour Sidelight thinks you ought to shrivel him up, but I insist that would be *infra dig*, and just what would be relished. You know if you handle a certain substance, your fingers will not smell savory. Any one can tell the difference between a skunk and a muskrat.

What a terrible hubbub you are managing to get up about who took the first portrait. What matters it, whether the camera was first pointed at a man, a house, or a horse? We might as well quarrel about what was the nature of the cargo carried by the first steamboat. Methinks the steamboat of the first consideration. Is Daguerre nobody? Is he to be entirely ignored in the discussion? Forbid it, Photo's! Forbid it, Typos! What I principally took up the pen for, was to tell you that your mode of recovering the nitrate bath has been of much advantage to me (and some disadvantage to you by the way, as I was about to "waste") and make no doubt it will prove a source of much economy to the Profession. I will tell it in Buffalo, and publish it in the galleries of Rochester, and spoil your profits: for you might have given me the chance of selling the recipe,—it's the mode you know,—and I would have shared the "plunder." Sidelight paid ten dollars for a less valuable piece of information than that the other day, "A new method of coloring pictures." The new mode showed wrinkles, its age was past telling, its teeth didn't look as if they could bite any more. But Sidelight is a knowing one, and knowing ones are sometimes bitten.

But I started with the intention of asking you a question. Now I, of course, feel quite complimented at your publishing my twaddle, but as my twaddle always contains a question of importance to my success, you will much oblige by answering. Some of the pictures I have been taking are very beautiful, but have a thin scum over them, this scum I can "lick" off, but as I neither like to give or receive a "licking," please tell me the cause and remedy, and if not a remedy for the cause, can you state what will supersede the licking. Yours, GOSSIP.

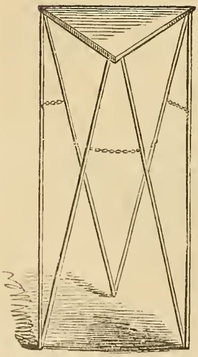
Buffalo, June 7th, 1858.

["Gossip" will please to observe that "the hubbub" covers more surface than he seems to suppose.

Our friend will find a sure "remedy for the cause" in the exposure of his bath to light. He cannot have been obliged to "lick" anything since he adopted our suggestion. Gently rubbing with a tuft of cotton or soft brush, may also "supersede the licking." The "cause" we consider is the presence of a deoxydizer, or developer in the bath. We shall discuss the matter fully, hereafter.—ED]

A NEW CAMERA STAND.

BY THE EDITOR.



None of the wooden camera stands with which I am acquainted possess the necessary firmness and solidity to support the weight of the ordinary $\frac{4}{4}$ camera. The folding tripod can scarcely be improved, yet it was found impracticable to use it for a larger than the half-size apparatus — Moreover the cheapest iron stand costs $10.

The apparatus represented by the woodcut is the result of an attempt to make a servicable stand at a little expense

The top is triangular. Each of the three legs are composed of two strips of wood about one half inch square, fastened to each other at the bottom by screws, and attached to the top by hinges, opening outward. The legs are also connected with each other by means of small chains of such a length that the legs cannot open so far as to allow the camera to fall. If the stand is used on a smooth floor, the ends of the legs should be shod with sharp iron points. The raising and lowering and tilting of the top is easily effected by properly moving the legs out or in.

Since the engraving was made, I have adopted some manifest improvements. I prefer to have the top circular, and at the centre a projecting peg on which the camera box is fitted, thus preventing the possibility of its sliding. Also, instead of the chains I have substituted thin and narrow strips of iron or brass, sliding on each other and passing through a clamp, in which they may be fastened by a thumb screw.

I have had the stand as last described in use for several weeks. Its performance is entirely satisfactory. It has the firmness of a rock. It will support the weight of the largest instruments without the slightest trembling. I know of no other way by which the same amount of wood can be arranged to afford the same solidity.

Any carpenter could put together such a stand in a few hours. Three dollars would procure one even somewhat ornamented.

EDITORIAL MISCELLANY.

———We intend to lay a heavy hand on the peddling worthless receipts at photographic galleries, and especially the doing the same dirty business by circulars through the mail. The practice in our art, it will be remembered, originated with the Rev. Hill, who carried it on zealously and successfully, lining his own pockets, as we may judge from the Barnum-like confessions and boasts in his *great* work on the Hillotype. Latterly it seems as if there had been a general overhauling of old books and journals of photography, and out of them every forgotten process was flying about in the mails,—some for a dollar,—some for ten. No wonder we read of mail bags groaning. The respectable U. S. carries on a great deal of iniquity, unconsciously, no doubt.

Now we would not deprive any one of the fruits of honest labor. Let the successful explorer be rewarded with fame and money, as much as he deserves. The invention of an art, or an improvement in an art, is worthy of the highest kind of remuneration, for it is a service to posterity. [" Art is long."] But we have yet to learn the name of *one* of these dispensers of circulars whose stock in trade being new was useful, or being useful originated with him. Of course we do not deny the possibility, that a valuable process might be disposed of by the inventors in the method under consideration. But we never expect to see a wise man whose object is only money, do such a foolish thing, when thirty dollars at the patent office will make all secure for his life time.

Frauds and swindles of all kinds have latterly increased to such an alarming extent, that vigilance committees are considered by many good men more safe than the authorized executors of the laws. All respectable citizens praise our Mayor for going beyond the routine duties of his office to cripple the strong arm of vice. It is the fashion to expose false pretentions, and many a quack laments that "his sands are nearly run out." Now, can we purge our profession of this receipt peddling? Is not public exposure the pill that can do it? At least as far as our readers are concerned, the nuisance may be abated. They may learn to show the itinerant peddler the door, and warn their neighbors.

Will our subscribers assist us? Like bogus lottery tickets, love powders and quack medicines, photographic processes are advertised and sold chiefly in the country. It is seldom indeed that the authors of these circulars have the impudence to address them to us. We must therefore depend upon our friends. Send us the circulars, and we will do the rest. We have the facts in three cases, which will appear in our next.

——We shall be pardoned for a little vanity, in calling special attention to the varied and interesting contents of the present number of the JOURNAL. We believe all concerned will soon be satisfied that a useful and original photographic publication is possible in the United States

——We have repeated some of the experiments of Mr. Duchochois on caseine, and readily agree with him, that it will prove a valuable material for our purposes. The chief obstacles in the way of its successful use seem to be the difficulty of preparing it of sufficient purity, and the apparent impossibility of preserving it without change. The pure solution coagulates almost as rapidly as it can be filtered. By the addition of ammonia, however, it may be kept indefinitely. Whether the ammonia has any injurious effect we are unable to say.—Of course metallic iodides cannot be used as excitants.

A very speedy method of preparing the ammoniacal solution, is to carefully wash the curd precipitated in sour skimmed milk, and dissolve in water to which a small quantity of ammonia has been added. By filtration, or allowing it to rest, the solution becomes quite clear and fit for use. A small quantity of lactate of ammonia is the chief impurity. The ordinary methods of purifying caseine leave it insoluble.

Besides the uses suggested by Mr. Duchochois we have found that caseine makes a good varnish for positives on paper. Will it turn yellow?

———The varnish of Mr. Hough is worthy of trial. Get gun cotton that will make a perfectly transparent film, and dissolve it in ether and alcohol free from water. Water can be removed frcm ordinary ether and alcohol by shaking them in a bottle with powdered quick lime or dry carbonate of potash.

———The communication of Mr. Dixon is particularly valuable as it shows that there is at present no restrictions on the practice of all known photo-lithographic processes. A patent (!) recently issued to Mr. Cutting of Boston is decidedly invalid. Moreover, it appears that Mr. Dixon is the original inventor of the process, which has been many times re-discovered and published as new.

We learn from conversation with Mr. Dixon, that the photographic use of bichromate of potash was suggested by his observing in manufacturing chrome yellow that when it was not perfectly freed from organic matter, it was speedily spoiled by the light of the sun. His photo-lithographic experiments were begun in April, 1839. He soon completed the process as given in his communication. Specimens were made and exhibited to many scientific gentlemen of Taunton and Boston.

———Many of our subscribers will be pleased to hear from our old friend "Gossip." He will be found as lively and good natured as ever.

———The Committee of the American Institute, reported progress at a recent meeting of the Mechanics' Club. They have before them a large mass of documents pertaining to their enquiries, and many interesting facts will shortly be published for the first time. In order that justice may be done the subject, and the parties concerned, the Committee will keep the subject open for many months to come. Their final report will probably be the most valuable contribution to the history of our art ever published.

If our readers have any facts in their possession relating to the history of the Daguerreotype, we hope they will address the Committee at the American Institute's Repository, 351 Broadway.

———The art of photography is by no means perfected. We shall hear of improvements and applications, of which, at present, we can have no notion.

But there are well-defined problems which offer themselves to us for solution, and which are worthy of the most careful attention and study. Among these we place foremost a process for making permanent impressions on paper. Photographs as at present made with silver salts *must* fade; no tyro in chemistry can doubt it. Photo-lithography and photo-galvanography may prove practical solutions of the problem where many copies are wanted.—Printers' ink will endure under all circumstances as long as the paper on which it is impressed. But these processes, on account of the expense and experience required, cannot be available to photographers generally;—the people cannot have engraved portraits. What is especially desired is a substitute for the ordinary process, which shall not be much more expensive and troublesome, and will ensure permanent results.

From recent European journals we learn that the grand desideratum is in a fair way of being discovered. Prints in carbon have been exhibited for some time. The process is not published. Mr. Sutton, editor of Photographic Notes, suggests that the materials employed were bi-chromate of potash, gelatine and carbon in fine powder.

We have been making some experiments in the same direction, with considerable success. The particulars will be given in our next.

———We shall publish in the next number of the JOURNAL what will prove to be a new, and the best application of photography to engraving: also valuable papers from Dr. Von Der Weyde, Messrs. Duchochois, Campbell and others.

———Will our friends, who are pleased with the JOURNAL, have the goodness to mention the fact to their friends. We are tolerably satisfied with it ourselves, but desire to do better, and accessions to our subscription list will materially assist us in carrying out our intentions.

MRS. ARCHER, the widow of Frederick Scott Archer (the discoverer of Collodion for Photographic purposes), died April 22d, 1858.

THE AMERICAN

Journal of Photography.

[NEW SERIES.]

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DRY COLLODION.

BY P. C. DUCHOCHOIS.

Every photographer knows how difficult it is to find a collodion suitable for the collodio-albumen-gelatine, or metagelatine processes : id est, a collodion giving a film neither tenaceous nor contractible, but very porous, friable and adherent. Old collodions are recommended as possessing such properties, but, besides they are often too much iodized for that purpose, it is to be remarked that if the collodions prepared with alkaline iodizers answer very well, those iodized with metallic salts (cadmium generally) do not always work as well ; for although the collodion bebecomes colored, the film however keeps for a long time all the characters of the collodion one or two weeks old.

Believing from observations that the alkaline and metallic bases re-acted on pyroxiline in different manners, desirous to explain that fact, and also to have a formula by which I can surely prepare good collodion for the dry process, I made the following experiment to study the action of alkaline bases in collodion.

To a plain collodion giving a thick strong film, very contractible and easily lifted up in long rays, I added liquid ammonia : immediately it was troubled and after a few hours gave a thinner film, very porous, rotten and opaque ; it took twenty-four hours to clear up, became of a fine amber color and left a white precipitate of decomposed pyroxiline (cellulose.) Caustic potash and caustic baryta in small quantity acted nearly in the same way. Hence alcaline bases react powerfully on pyroxiline ; *it is disorganized and a part is decomposed.*

This is very important. It explains,—1st. The great fluidity of collodions prepared with alcaline iodizers, (particularly when iodide of ammonium is used) and partly their instability. 2d. Why those collodions give a film with less and less body, and the causes of insuccess resulting from it. 3d. The advantage of alcaline collodion for Mr. Taupenot's and Norris' processes, and generally for all dry preparations on collodion. It will be observed that the amount of ammonia added to the plain collodion, ought to be proportioned according to the kind of pyroxiline, that is, to the more or less tenacity or contractibility of the collodion; and that ammoniacal collodions cannot support as much iodizer as other ones: 4 grains to the ounce is a good proportion for the collodio-gelatine process, and 2 grains are enough for the collodio-albumen.

But since it is easy to prepare a collodion with all the proper qualities for dry preparations I have adopted a truly dry collodion process, (without any kind of preservative coat) which is very sensitive, and has the advantage of great simplicity, The preparations are:

Collodion.	Ether conc	6 fl. dr.
	Alcohol, 95 deg.	2 " "
	Seely's pyroxiline	5 grains.
	Iodide of ammonium	4 "
	Liquor ammonia	3 drops.
Silver bath.	Water	1 fl. ounce.
	Nitrate of silver	27 grains.
	No. 8 Acetic acid	2 drops.
Developer.*		
	Gallic acid	1 ounce.
	Alcohol	4 "
	No. 8 Acetic acid	1 drachm.
	Camphor	15 grains.

After sensitizing, immerse the plate in water for 3 or 4 minutes, and having washed it with distilled water, let it dry in the dark.

To develope: first wet the collodion film with water, and then spread upon it a mixture of 1 drachm of the developer, and 3 or 4 ounces of water;—afterwards add a small quantity of a solution of nitrate of silver, at 3 per cent., to strengthen the negative.—Fix with hyposulphite of soda.

As it has been said, this process is very rapid, and the failures often arise from an excess of exposition: if it was too long, the sky does not blacken ; the picture is too equal, and does not take enough intensity in the high lights.

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* Modification of Mr. Scheurer's developer, published 1850.

N. B. I will, by further experiments, study the action of pyroxiline on the metals zinc, iron, cadmium and their oxides.

PHOTO-LITHOGRAPHY.

BY H. GARBANATI.

Since the issue of the last number of the Journal, Mr. Dixson has favored me with a *proof* of his claim, as supported by an extract from the Scientific American of April 15th, 1854, and which he showed, with an evident degree of satisfaction, because, as he said, he always liked to be right.

When writing his communication, he felt sure he must have some reminiscence of his experiments, *more* than the printed statement, and resolved to furrage amongst his store of venerables, his large accumulation of fruits of many years' labors for the same.

> " At length, an old oak chest, that had long lain hid,
> Was found in the *Garret*, they raised the lid,"

And diving to the bottom of his experimental medley, he found a piece of metal.

And a queer piece of metal it was. It was blackened with age, and might have been a *grave* companion of Sesostris, for aught its color would belie. Indeed, from its appearance I do not know at this moment its metallic name.

It was dated " July 2d, 1840," and had the words " Comb. of Matches," " Bichromate of Potass."

On its surface was depicted the outline of what Mr Dixson said was a "shilling," and also the " Comb of Matches," the latter of which (the very name is strange to many of the present generation) was the form in which " Lucifer" matches were first introduced, to supersede the old " flint, steel and tinder box," and has of course been out of date a number of years. All the jagged outline of the saw cut was clearly defined, and happily illustrates photographic printing on metal or stone (the same process). The odd article was used for obtaining an impression, simply because it happened to be convenient, when trying the experiment with bi-chromate of potash, but its very oddness is strength to the proof that photo-lithography was successful long before any patent was granted for a variation of the process. The process as patented by Messrs. Cutting and Bradford of Boston is scarcely an improvement, but being more generally known by being patented, than Mr. Dixon's mode, simply answers the purpose of placing this branch of the art in exclusive hands, or causing those who wish to practice, to buy a right to do so, by which they have so far thought the only mode.

The practice of the Commissioners granting to almost all who apply, patents for the products of other mens' brains, because of some trifling, and perhaps, valueless variation, is becoming of so serious a matter, that it almost necessitates a "Vigilance Committee" to examine into the various claims No branch of industry has suffered more than the photographic, and it is really worthy of consideration whether its members should not subscribe to a general fund for mutual protection in keeping open all the various channels of improvement in the art.

Messrs. Cutting and Bradford, in applying for a patent for the simple use of sugar and soap in photo-lithography, either must have carefully eschewed all publications detailing the progress of their art, not to have known that the same results were obtained both here and in Europe before their claims, or, anxious to originate something themselves, have plodded over the well beaten track, and taken a vast deal of trouble to arrive at the point they might have started from ; nevertheless as they have claimed, on the use of the sugar and soap alone, it would appear as if they were cognizant of the previous success of photo-lithography.

Mr. Dixon did not publish his communication solely with a view of obtaining the mere fame of priority. He is too old and distinguished a laborer in the photographic field, and has given his discoveries too freely, and unexacting of the slightest recompense to have any such desire. He is simply an earnest and scientific amateur and investigator in photographic phenomena, and loves the art so well, that he will not allow what has become public property, to be excluded from public use. Amateurs have so far been the most valuable and unselfish contributers to the store of knowledge, that has accumulated rapidly in the art, and we must not be surprised if they jealously guard to its uses, what they have freely given away.

A PORTABLE TENT.

Mr. Editor,—Let me suggest a photographic use, of those skeletons of grace, and flowing beauty, which we see

> "———— idle in the wanton summer air,
> And yet not fall,"

viz: hoops.

I use them as a portable dark closet, in taking views in the open air. I cover them with two thicknesses of yellow muslin, with a margin of a foot around the band, which excludes all actinic light, insert a piece of yellow glass on the top, or on the side, two sleeves of yellow muslin on the sides, and prop up the whole by four iron skewer-like supports, sticking them, when in use, in the ground.

I insert the glass between the two layers of muslin, cutting a hole a little smaller than the glass, and then sew the layer together, around the edge of the glass.

The mode of using it is thus:

Having extended the hoop, placing the bath, plate, shield chemicals, &c. upon the ground within, I put my arms through the sleeves, look down through the glass at the top, and manipulate as easily and as well, as at home in my working room, the glass enabling me to see when the plate has been long enough in the bath, watch the progress of the development, &c.

To wash off the developer, &c., use an india rubber bag, with a tube and stop cock, keep the bag outside the hoop, lead the tube within it, by pressing upon the bag with your foot, or knee, and you can force the water in as you may need.

For a small instrument, a couple of rings of bamboo, two feet in diameter, covered with muslin as above, and about a foot and a half apart will answer very well.

The advantages of lightness and portability of this Hoop-tent over the ordinary tent are obvious, and over the dry process very great, as no laborious previous preparation of the plates is necessary, and the mortification of returning home to develope under or overtimed views is avoided.

I gain a little space and lightness by discarding a separate shield for the ground glass, putting a piece of ground glass into my plate shield, when focusing.

Truly yours,

A. P. Jr.

AMBROTYPES PERMANENT.

BY W. CAMPBELL.

There appears to be a considerable doubt as to the durability of positive pictures on glass, or "ambrotypes," (I hate the word ambrotype) as well as a desire on the part of many to return to daguerreotyping again, on that account. Now there really can be no objection to those having daguerreotypes who desire them, but to make a sweeping condemnation of glass pictures before they have had a fair trial, or because the majority insist on sending these pictures forth unvarnished, and open to every deleterious influence that may affect them, is, in my opinion, arriving at too hasty a conclusion. Suppose these same individuals, who do not varnish their pictures, were to send out their daguerreotypes not gilded, what would they say? or what conclusion would they draw ? why, evidently that the daguerreotype would fade. Why, then do they expect exemption from a law in one case, which in the other case, they are certain will operate ? for both pictures are made on silver. The daguerreotype is in fact an amalgam of silver and mercury on copper, whilst the glass picture is pure silver ; of the two, the latter has certainly the advantage, because being a noble metal, and pure, we should naturally imagine that it would withstand all injurious influences, especially if protected from atmospheric changes, whilst the daguerreotype, protect it as you will from external influence, is still subject to galvanic force always existing between bodies, but especially so between metals.

Few daguerreotypes, indeed I believe none, will last out the half century of their existence, even if they have a protecting film of gold. We know that gold is a very stable metal, and that gold covers the picture, but there is mercury underneath, and mercury is a very unstable metal; it will first combine with the gold, and ultimately fly off, leaving dark dim shadows, where it once gave lustre and beauty. This is the reason why so many have to complain of their daguerreotypes not possessing that brilliancy they had when first made.

Now some may think that half a century is long enough; not so. It ought to be our aim to give length of days to our works, a thousand years if need be, aye, more thousands of years. Is it unreasonable to desire this ?

The ancients have sent down their works to our day, and the old masters, painting for posterity hundreds of years ago, in these days present us with their works, entire in their substance, and faithful in their performance. Why, therefore, should we despair ?

So far as the knowledge we now possess, I believe the positive picture on glass, will, if properly prepared, and faithfully finished, last as long as the glass it is made on, and glass will last a long, long time.

Now, I do not think the trouble of making a picture permanent is very great. A good white varnish, if it be hard, is easily put on, and I feel certain that it will be the means of keeping the picture good a very long time. If the picture be varnished with a white varnish, and afterwards with a black one over the white, it will surely crack; the unequal expansion of the two will surely ruin the picture. If it be sealed with Canada balsam, the same effect will be produced, because the two glasses expand unequally, and blisters are the consequence. I have seen a great many very good pictures totally ruined by this cause; besides which, the Canada balsam, so long as it is moist will keep oozing out, and if it dries, it becomes a resin, and, of course, opaque. Time is required for this, but not a very long time.

The reprehensible practice of sending out pictures unvarnished, without anything to protect them, is disgraceful. It is true the ruling prices hardly warrant a careful finish, but whose fault is this ? certainly not the fault of the public ; they are willing to give a fair price for good work, but the operators have led them to believe that a good picture can be had for something next to nothing, and,the people—careful of their money, lending a willing ear to what is so much to their interest—disdain to enter the door of the higher priced but honest artist, flock to the cheap shop, and get cheated for their pains. But I am digressing. What objection can there be to the white varnish ? The only objection I ever heard, was that it would get yellow. Well, —I must submit,—I suppose it will in time, but what then ? It will not crack as the black varnish picture will. It will not blister as the patent, or fir balsam picture will. It will not " get small by degrees, and beautifully less," as the unvarnished picture will. No ! it may get a little yellow, and that is all, and really there is not a great deal to be made of this ; we must not compare the thick coating of varnish which covers the paintings of the old masters with the thin yellow which is put upon the glass. The canvass on which the painting is made will of itself turn yellow, and so will the paper, but ages will not alter the glass, nor will the slight color to which the varnish may turn, ever hide the beauty of the face beneath, or alter one line of the charming picture painted there.

A LETTER FROM LONDON.

47 Leicester Square, London, June 3, 1858

Mr. Editor,—I have made a tolerably good use of my few days residence in the metropolis, in pursuit of knowledge pertaining to photography and in making preparations for the future, I have looked in at many galleries, stock dealers' establishments, and have made pleasant acquaintance with gentlemen who only amuse themselves with the art Picture shops are as plenty as in New York, and of all grades except of the first class American galleries. There is nothing here to compare with Gurney's or Brady's in convenience and elegance of decoration.

The processes practiced are substantially such as given by Mr. Hardwick and the Journals. The objection immediately raised to our methods of working, is the increased expense. "If good photographs can come out of a 20 or 30 gr. bath, why use 40 or 50 ?" But you know, sir, they are wrong, and I am sure I shall convince some of their error.

We can buy stereoscopic pictures everywhere,—at the stock dealers, galleries, opticians, bookstores, picture stores, and toy shops. And ridiculously cheap, too, for I have purchased a fair specimen for a dime.

I had the pleasure a few evenings since of attending a meeting of the London Photographic Society As you will shortly receive in their Journal a minute and accurate report of the proceedings, I offer for your readers only an outline sketch. After the usual formalities of opening the meeting, Mr. T. F. Hardwick was introduced, and read a long paper on the use of bromine in collodion, blaming it much for often producing solarization—but admitting it might assist in rendering half tints The Secretary read a petition to her Majesty praying that the copyright laws may be so amended as to protect the photographer ; also a paper on solarization, recommending the use of citric acid in hot weather, and acetic acid for cold weather, with the developer. Another gentleman recommended chloride of ammonium in collodion.

We are as poorly off as you, regarding photographic paper. There is no good plain paper to be had I have reliable assurances, however, that in the course of a month we shall have plenty of the very best quality.

I have taken some pains to introduce the Niellograph to the English people. My pictures have elicited some quite flattering notices from the press. I have found it worth while to secure the invention by patent—a different affair, you know, from your cheap American rubbish of thirty dollars. The process is worth the money I pay, and I trust I shall at least lose nothing. I remain very respectfully, &c.

A. G. GRANT.

A LETTER FROM BUFFALO.

MR EDITOR,—What do you think of humbugs? The question you may think superfluous, considering you have so often been "down" on the humbugs in photography. You will, perhaps, point to losses of subscribers and customers, because you have exposed some quackery, precisely so; but then I want to introduce my opinions, for I am "down" on photographic quacks and humbugs. Now it is quite possible I may be a humbug myself in something or other, possibly, also unwittingly, in some other thing. But I am most uncompromisingly hostile to photographic quacks: fellows who insiduously draw some cash—too often but illy spared—out of Brother 'Photos', and not only lead them into useless and expensive experiments, but do damage their business and reputation, and in so doing, cause them to experimentalize themselves back into the straight and easy path they were pursuing, and thus bother them most egregiously. A correspondent of yours, in your last number, was very severe on process pedlers, so much so, that did I not know the man, I should have thought he had been bitten His article it was that led me into another on the same topic, and should I be trespassing on his "Preserves" I trust he will not shoot me, but cry out "peccavie." The fact is, I know some of these fellows, and have an especial one in my mind's eye.

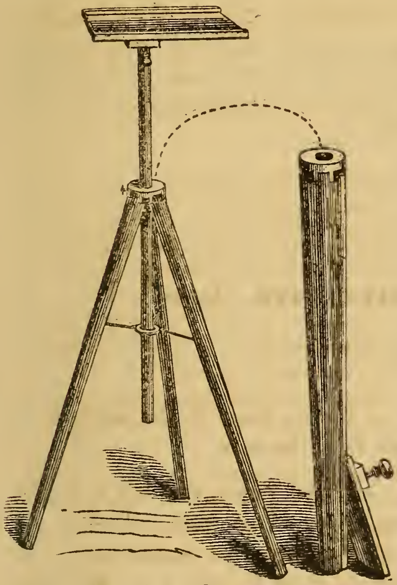
But I started to give you the *modus operandi*, by which this immaculate denouncer of humbugs managed to peddle his process The *process* itself may be worth something, but the manner of inflating the price is what I object to, and how he managed to get the lion's skin, (I was about writing, share) is what I wonder at. though that is none of my business I have been over the scene of some of his exploits out West, where cash and cameras, and anything obtainable were taken as initiation fees into the process. If a large amount was not to be had, why a small one must suffice, the thing must go off at any price, though Snigs paid more than Snooks, and Snooks paid less than Brice, and if no cash, why something must be bartered They do say, that in addition to a silver watch, gold pencil case, and pair of pants, he once accepted a second hand shirt, but that I do not believe, unless he happened to fall short of one. But one thing I do know,—amidst the marshes of Michigan, it happened in this wise : A party had given a one-quarter camera and instructions for two or three hundred (I forget which) acres of land, this land turned out to be valueless. A mere swamp, in fact,—and the purchaser "jackassibus in swampo" dear, even at a one-quarter camera and instruction. In short it was a source of annoyance to its new owner, who had offered it in vain for $20. The learned "Professor" coming along was offered the land for "a right of process, with a candid acknowledgment of its "*value*." The "Professor" resolved to go in for a *bold-win*, and in due process resolved to give three county rights, provided a deed was made out at the nominal value of $900, which was accepted, and with the deed, bearing the transfer of a man known to be shrewd, and a first class operator, the "Professor" traveled the county, and *proved* the high value set on his mode Hence the heavy contributions of cash, cameras, &c., to obtain the wonderful process, levied on ambitious photographers in the country. This, Mr Editor, is only one of the modes of process pedlers, and as it happens to be the worst I heard of, and probably which has occurred and will occur, I give it first. But I am on the watch. There are plenty of others equally successful in a small way, going about seeking what they may devour, and who I will yet catch and skin, and hang up as scarecrows for the benefit of the profession.

But I have missed my budget, and am already too long, but strike my camera,—a strong oath—if I do not despise these men, who, rushing into the art with a mere desire to make money honestly, if they can but make it, would degrade it with quack nostrums, and make it a matter of mere mechanism instead of a noble and difficult art. Yours, Gossip.

"THE COMPACT CAMERA STAND."

BY H. GARBANATI.

It is just as important that apparatus shall be perfect as chemical processes, and any means that will economize time, and simplify manipulation, or give lightness, durability, strength, beauty or economy to photographic apparatus, is of interest to the photographer.



The "Compact Camera Stand," therefore, combining the above qualifications is worthy a description.

When extended, it is a tripod, with the three legs, concaved inside, suitably to clasp the convex of the centre pole which holds the top, and depressess and elevates as usual, to suit the required height.

The legs are kept extended, by three stout wires, fitting on the one end, to each leg a pin passing through an eye, and fastened in the leg, and on the other end, fastened to a movable ring, which passes up and down the pole.

When closed, the stand—without the top—looks like a stout stick, with an iron top, which is used to connect the upper parts of the legs by means of pins serving as hinges.

The whole may be carried in the hand, like a walking stick, and is strongly suggestive to the traveling artist as an anti-garroter.

To open it, it is only necessary to pull the legs apart, when the ring—which with its connections has been snugly ensconced between the legs and the pole—will descend to its place and keep the legs extended—the movement is very much like an umbrella.—To close, the ring has simply to be pushed up. There are two qualities that need especial mention. The one is, that instead of a screw, (which is necessary to keep the top at its required height) pressing against but one part, to its damage, there is a band inside the connecting iron, with a slight space, against which band the screw presses, the band closing, presses equally all around the pole, and this keeps it much steadier, and without indentations. The other we mention, is that the screw tilting the top, being placed nearer the centre than the common mode, tilts it in much less time than the common mode.

Upon the whole, this stand is one of the most complete articles in the art, and weighs but little more than half the common tripod. It is the invention of Messrs. Seely & Garbanati, who intend patenting it. The price of one suitable for half-size camera is $3.

THE NITRATE BATH. (Again*)

BY THE EDITOR.

I propose in this paper to discuss some of the methods of removing foreign substances from the bath.

If the bath has been but little used, and has a proper strength of silver, and you have used a suitable collodion, you may be sure, if it works ill, you have got something in by carelessness. Try the remedy given in page 6, at the same time resolving to be more careful in future. Also, on first mixing the bath, if it does not suit you, try the same remedy.

Moreover the exposure to light will prove effectual in all cases where the foreign substances have injurious effect from their chemical power. All organic matter, and all deoxydizers, whether inorganic or organic, will be precipitated by the action of light, and the bath be left photographically (?) pure.

Although I consider the exposure the best and almost sovereign remedy for a diseased bath, I shall do injustice to others if I omit the method commonly practiced.

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* See page 20

Mr. Hardwich recommends, to evaporate the nitrate solution in a suitable porcelain vessel, and fuze the nitrate of silver, by which operation the organic matter is consumed. The fuzed nitrate is dissolved in the proper quantity of water, and filtered, when, by the addition of a few drops of nitric acid, the bath may again be in working condition.

For another method; I am indebted to Kruger's "Vademecum des pracktischen Photoggraphen." Kruger's process consists briefly, in precipitating the nitrate of silver as carbonate, and after washing, re-dissolving the precipitate in nitric acid. Or, to be understood by all, filter the bath solution; add carbonate of soda or potash till no more precipitate falls; wash the precipitate carefully in clean water; when well washed, add pure nitric acid till the precipitate is nearly dissolved; and, finally, water sufficient to make the solution of the original bulk. Mr. Gaspar Lucacsy, late of Caraccus, S. A., informed me that he has frequently, during the past two years, treated his bath by this method with perfect success.

With reference to these methods, I would observe that the first especially requires too much dexterity in chemical manipulations to be serviceable to photographers generally, and that the second will not effectually remove the organic matter, unless the precipitate of carbonate of silver is ignited. Mr. Kruger's process has, however a special advantage which I will shortly point out.

Thus far I have not alluded to the influence of other nitrates, constantly replacing the nitrate of silver. Precisely how these nitrates act, I am not prepared at present to say. But I venture the suggestion, that they act only mechanically, and they do damage only where they exist in such abundance as to cramp the nitrate of silver in its otherwise free operation. I have seen collodion pictures with a peculiar mottled or sandy appearance.—Was it caused by foreign nitrates in excess? It is an appearance, I should expect, especially if the film had been allowed to dry too much on coming out of the bath. (I intend to settle this matter by experiment shortly.) At all events, a way, if possible, of removing foreign nitrates is desirable.

The exposure to light, or the evaporation to dryness, removes none of them. But Kruger's process, it will be readily seen by chemical readers, will eliminate all alcaline nitrates, and those only for the metallic will be precipitated as carbonates. If collodion sensitized only with alcaline iodides (ammonium, magnesium, potassium, &c.), has been used, the bath may be readily converted into a pure solution of nitrate of silver. Moreover, if the iodide of a volatile metal (cadmium or zinc) was used, the carbonate of silver may be purified by ignition in a crucible.

In reference to the exposure to light, I should have before remarked, that the bath is left in the alcaline condition, and requires the addition of a drop or two of acid before it will work clear.

EDITORIAL MISCELLANY.

———Some of our friends have misinterpreted our promise regarding exposure of photographic quackery. To forestall any future misapprehension, we will say that we shall never make the JOURNAL a medium of personal interest of any sort, it cannot be the arena for petty wrangling. We desire to publish a journal worthy of a noble art, and which may be looked upon in future times as history; that the names which occur in it shall merit the fame it confers. We cannot dignify any process publisher with mention of his name till his operations assume the stupendous dimensions of the Hillotype. Moreover, by the course we propose to take, we shall not be so much annoyed by the "corrections" and "explanations" *a la injured innocence*, which are sure to follow the publication of the name of a swindler.

Now, consistently with the above, we are going to record the fact as emphatically as possible, that at the present time, process pedling is an evil that exists to an alarming extent, and so viewing it, we are going to make it a special labor to exterminate it. We shall write about it in these pages, talk about it in public and private, and get the co-operation of every one, who will assist. We shall not rest content till the pedler of stolen processes will not only not thrive anywhere, but be considered disgraced.

The cases alluded to in our last are as follows:—

Circulars are issued from a western city, in Pennsylvania, announcing the invention of three or four new styles of pictures. The style of the circular and the Greek names of the pictures are immense in the extreme. We are requested to state that the author is an enterprising young man, and really believed himself, that he had something new. In proof, it is said, he actually applied for a patent. The pictures are simply transparent positives on glass. Since our publication of a similar process in 1855, it has been rediscovered and re-published in all imaginable ways. Any recent volume of a photograph journal will probably sell a dozen of the same sort, and as valuable as the one peddled.

A man who answers to a very funny name 'out west' has discovered "the grained ambrotype" and a wonderful "black varnish" "grained ambrotype" will recall to our daguerrean friends the grained or matted daguerreotypes, and half a dozen ways of graining an ambrotype, some of which would be better than what the man out west had discovered. The new black varnish is compounded with a solution of "old india rubber shoe" and the ordinary black varnish.

A Trojan has been itinerating with a process for coloring ambrotypes. He was unwise enough to come to New York, where there is no demand for his kind of talent. His manner of coloring, besides being useless, has for a long time been secured to others by patent. The colors are alcoholic tinctures, and penetrate the film so as to show on the glass side. The particulars have been published over and over again.

———The process of Mr. Duchochois on p. 33 will be found of especial interest to landscape photographers. The preparation of gun cotton suitable for dry collodion has been quite thoroughly studied, and we have known for a long time what qualities were needful. But the ready and cheap way of securing them we believe is now first offered to the public.

——We are constrained to agree with Mr. Campbell in the sentiment that collodion pictures only are permanent. Among photographers at least the truth should not be disguised, but rather should be so appreciated as to serve as a stimulus in the search after improvements. The invention of a process for making photographs on paper permanent, will deserve to rank with Niepce, Daguerre, Talbot and Archer.

——The following is the claim covering the photo-lithographic process of Messrs. Cutting and Bradford. We are obliged to reserve any discussion of its merits to a future period.

"The employment of gum arabic deprived of its power of intimate union with the stone, by means of sugar or its equivalent. And in combination with the above, the use of soap for the purpose of readily removing the unlighted portions of gum, and of forming the printing process."

——We are in possession of quite a number of Foreign Publications devoted to the art. Not only do so many prove the vast fields for research and discovery yet unexplored, but also that our European competitors are far ahead of us in endeavors to make the art scientific and really artistical.

At present with us, Photography is almost solely used as a means of making money, and though in the pursuit of the cash, we have necessarily brought the mere manipulations to almost perfection, yet it cannot be denied that we neglect the higher and nobler uses it is now available for.

We are too mechanical, we pay little or no regard to composition, and though we may group admirably, it is with the only consideration, of how we can best dispose of any given number of persons who think proper to sit in company. But to tell stories with the camera, to depict sympathies, remind of joys and grief, and picture scenes of home by its aid, is something we have not yet even thought of.

Photographers, do not merely learn "processes" and "face mapping," but strive to be artists also. Depend upon it there is fame, aye, and money in it too—that photography can and will rank as one of the "fine arts."

Artists, why not oftener become photographers? there is space enough to develope your talent, and a readier mode of becoming known, and what is better, you may bend the art to your own use and double the productions of your works. More anon.

THE AMERICAN
Journal of Photography.

[NEW SERIES.]

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ON THE METHOD OF ENLARGING PHOTOGRAPHIC AND OTHER PICTURES.

BY P. H. VANDERWEYDE, M. D.

As the above subject is now attracting much general attention, some information concerning the first invention of the apparatus used for this purpose, and on the disputed question of diffraction, will be welcome to the readers of this journal.

We will commence with a translated extract from an article on the camera-obscura, in a Journal of Natural Philosophy, published by the writer in Holland, 1840.*

After devoting some 30 pages to the theory and construction of the simple camera, invented by Baptista Porta, of Naples, 1550 (or after others even by Roger Bacon, 1280), and its diversified constructions, and later improvements with the Prism, by Soleil in Paris, called by him *Phoniograph*, the variety for magnifying the objects is treated and attributed to *Balthasar*, in Erlangen, Germany, who gave the theory of it in 1710, and Lieberkuhn, a celebrated optician, who exhibited publicly a solar microscope, before 1740.

Weickardt, also a German optician, was the first who about the same time constructed a camera to enlarge opaque images ; this was of course long before the achromatic lenses were invented. He used, however, also two lenses in the way we use our double lenses for portrait, as he found it gave a larger and better defined field ; and for objects very near, to be enlarged much, he added a third lens, or changed the two with others of shorter focal distance. He gives the description of an apparatus for copying drawings and paintings of every size, and also the way to draw the so-called *anamorphosen*, or distorted pictures (as much in fashion in the last century as now the stereoscope), by placing the picture to be copied and the field both in a corresponding oblique position.

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* Tydschift for Wis en Natuarkaude. Amsterdam, Holland ; can be found at the Astor Library.

This apparatus, fit to give enlarged images of small objects was later manufactured in Neurenberg, Germany, on a small scale, in large numbers, and very cheap, too; it was adapted for transparent objects. It was (as we all know) called a solar microscope; and if it was adapted for opaque objects and small drawings to be enlarged, it was called (as we do not all know] a *megascope* or *megalascope.*

Aepinus, *Euler*, and *Zeiher* had proposed such contrivances already under the name of a solar microscope for opaque objects, but the first who exhibited one in public was *Marten*, in England, who illuminated his small objects with reflected sun-light in the focus of a concave mirror.

The article of which this is a very abridged extract, gives now a description of a copying apparatus, which the writer made in 1837, serving for the same purposes as that of Mr. Moore, mentioned page 139, vol. VI.,(of which I, however, do not know the particulars), and remarks, at the same time, that Adams, the manufacturer of the once celebrated, but now antiquated, microscopes, proposed a similar apparatus 100 years ago.

After this, is given the description of the lamp microscope, hydro-oxygen microscope, magic lantern, phantasmagoria, as being all instruments belonging to the same category as the animal eye.

The third and last part of the article treats of a different class of cameras, where the first inverted image is taken up by a second lens placed behind it, and so a second upright image is formed. The purpose of this arrangement is twofold: 1st, to have an image on the ground glass not inverted; and 2nd, to have an enlarged image of very distant objects.

Scheiner, the German astronomer, constructed about 1600 apparatus of this kind to make an enlarged image of the sun, in order to observe its spots; and we all know that the same can be done with every astronomical telescope elongated a little over the length used for observation, fitted in a hole in the blind of a darkened room, and provided with a reflector outside, and that this contrivance has been used by several photographers to obtain pictures of the spots of the sun and moon.

A portable apparatus of this kind was called a *Helioscope*, and *Hevel* made many observations with it on the solar spots (1750) as it gives an easy way to measure the position of each. *Eimart*, in Neurenberg, observed eclipses with it, and Kæstner gives all the calculations about its use in astronomy, in his Astronomical Treatises, vol. 11, p. 362.

A modification of this arrangement is the apparatus of *Cayeux*, called *Eugraphe*, which gives an upright image of any object at any distance, and also of any desired size. The arrangement is this :

The first or objective lens, has about 8 or 10 inch focus, 4 or 5 inch aperture, and is movable in a tube in which the first inverted image is formed, on a ground glass, behind this are one or two combined smaller lenses of short focal distance, which transfer the first inverted image upright and enlarged on the second ground glass ; the first being removed, as the image exists in the air just as well without a glass.

By elongating the distance of the two small lenses, or diminishing their distance to the first lens, an increase in the size of the second image is of course obtained. Later, this apparatus has been improved by adding a so-called intermediate lens behind the first large one, to contract its image but at the same time making it better defined, clearer, correcting aberration, &c.

The article from which this is extracted ends with this description of the Eugraphe of Cayeux, which he intended in particular for portrait painters, and which in 1840, when most of the above was written, was the latest improvement in the camera.

Since that time the camera has been improved in another direction by applying achromatic lenses for the use of photography, as we all know ; and no doubt if these improvements in their lenses, were applied to the Eugraphe of Cayeux, the most perfect instruments for copying on an enlarged or diminished scale would be produced.

In a following number I will write about the subject of diffraction in enlarging transparent photographs.

ON COLLODION.

BY P. C. DUCHOCHOIS.

Collodion is a solution of pyroxiline in a mixture of ether and alcohol, to which is added, for photographic operations, a small quantity of soluble iodide, of bromide, and sometimes also of chloride.

In principle the ether gives the *solidity* of the collodion film, and the alcohol adds to its sensitiveness, and to the softness of the proof, by destroying the tenacity that the ether gives. However, it will be dangerous to force the proportion of alcohol, for a little solid, glutinous and unequal film will be the result.—The presence of alcohol is also necessary to dissolve the pyroxiline, iodide and bromide, which are insoluble in absolute ether, and to prevent a too quick evaporation of the collodion that opposes the formation of an equal film free from striæ.

If the amount of alcohol employed to prepare the collodion is too small, the iodide and bromide of silver, instead of being formed in the body of the film, are entirely formed upon its surface and easily washed away.—The same effect is also produced by a too weak silver bath, and if it is concentrated enough, it will be necessary to add a few minims of acetic acid, even when the bath is not alcaline, and does not give any reduction ; the acid in that case appears to help to accelerate the combination of the iodide and bromide with silver. Sometimes also a collodion prepared with iodide of ammonium gives birth to the same kind of imperfection ; then the addition of a few drops of water is often a good remedy.

To prepare photographic collodion, netural and an anhyhydrous sulphuric ether only mus tbe employed,and containing very little alcohol, and newly distilled on potash, in order that it may be free from oxydation and from that peculiar property, which it acquires by long keeping, of decomposing the metallic or alcaline iodide and bromide of the collodion.—The alcohol must be very concentrated and well purified from any essential oils which destroy the sensitiveness of the preparations. However, its specific gravity ought not to be over 0.809, for an anhydrous collodion is far less sensitive than when it contains a little water ; 2 or 3 per cent ; a larger quantity will give a collodion not very fluid and a wavy film, liable after fixing, to tear or peel off in drying.

The proportion of alcohol and the quantity of pyroxiline vary according to the temperature : the higher it is, the more the quantity of alcohol augments ; the lower it is, the larger must be the proportion of pyroxiline.—The proportion of ether to alcohol and the amount of pyroxiline are generally formuled as follows for the different temperatures :

At 59 deg. minimum *Ether*, sp. gr. 0,72....4 parts.—*Alcohol*, sp. gr. 0.809....3 parts.—*Pyroxiline* 1 per. 100.

At 41 to x 59 deg. *Ether* sp. gr. 0.72....3 parts.—*Alcohol* sp. gr. 0.809....2 parts —*Pyroxyline* 1 1-5 per 100.

At 41 deg. maximum *Ether* sp. gr. 0.72....4 parts.—*Alcohol* sp. gr. 0.809....2 parts.—*Pyroxiline* 1 3-10 per 100.

The dose of iodide in the collodion must be proportioned in such a manner that the sensitized film presents by transparency a deep opal color, which does not permit to read through, although easily penetrable to light, for any opaque film is not very sensitive and gives gray proofs (too equal), on the contrary a film too little iodized gives too much vigor (contrast).—In good conditions the collodion contains per cent. about one part of *Iodide* combined with a metallic or alcaline base.—If a bromide is employed, its addition does not effect sensibly the proportion of iodide, and the dosage varies, according to the effect required, from 1-6 to 1-2 of *bromide* for *one* of iodide.

The following table will facilitate the preparation of collodions with the iodides and bromides of any base, in order to have always the same amount of iodine and bromine :

The *Iodide* of	Magnesium	contains	91.86690	parts of *Iodine*	per cent.
"	Aluminum	"	90.07092	"	"
"	Ammonium	"	87.58620	"	"
"	Sodium	"	84.66666	"	"
"	Iron	"	81.93548	"	"
"	Nickel	"	81.41025	"	"
"	Zinc	"	79.87422	"	"
"	Potassium	"	76.50602	"	"
"	Cadmium	"	69.39890	"	"
"	Barium	"	65.12820	"	"

The *bromide* of	Magnesium	contains	86.95652	parts of *Bromine*	per cent.
"	Aluminium	"	85.10638	"	"
"	Ammonium	"	81.63265	"	"
"	Sodium	"	77.66990	"	"
"	Iron	"	74.07407	"	"
"	Nickel	"	73.39449	"	"
"	Zinc	"	71.42857	"	"
"	Potassium	"	67.22689	"	"
"	Cadmium	"	58.82352	"	"
"	Barium	"	54.05405	"	"

The thickness of the collodion depends on its preparation and the manner of bringing out the picture. With a collodion prepared only with iodide, and but little iodized, or in developing with pyrogollic acid, thin films are preferable ;—those a little thick give better results and more intense negatives with a collodion bromo-iodized, or when the sulphate of protoxide of iron is the developer used.—The density of collodion depends also on the size of the glasses to coat ; the larger they are, the thinner ought to be the collodion ; since the evaporation being more considerable on a larger surface than a small one, the collodion leaves necessarily a thicker film. The progressive decomposition of collodion is determined by the acidulation of the ether resulting from its oxydation in contact with the oxygen of the air, or with a powerful oxydizing base, such as potash, soda, ammonia—either, if they are in excess in the iodide and bromide, or even in combination with them.—It is also to be observed that these bases react equally on the alcohol and decompose it.—On pyroxiline the action of the alcalis is very powerful, it is partly decomposed, the collodion becomes very fluid and gives a thinner film like rotten collodion, often opaque, and with less and less body.

The acidulation of the ether determines the decomposition of the iodide : iodine is set free, reacts on the ether, and alcohol, and gives birth to new compounds (iodoform, iodhydric and iodic acid, etc.) which bring about the complete deterioration of the collodion.

By way of decomposition, the collodion loses its fluidity (if prepared with alcaline compounds) and forms a film thinner, having less body and powdery, and gives more intense and vigorous proofs, a property that it loses afterwards, and becomes less and less sensitive.

The insensitiveness is easily explained by the iodic acid, which at the time of the sensibilization is transformed in the body of the film to iodate of silver, and by the formation of nitric acid, which takes place every time that free iodine, iodic and iodhydric acid are in contact with nitrate of silver.

The augmentation of intensity would be in part the result, according to Mr. Hardwich, of the formation of an organic compound (formed by decomposition of the pyroxiline in presence of an alcaline iodine*) containing some elements of the pyroxiline combined with a base, and having properties like those of sugar, to form organic compounds with the salts of silver, reduced by light.—According to Mr. Maxwell Lyte, that would be owing to the presence of nitrous ether, formed by the nitric or nitrous acid, mechanically held in the fibres of the pyroxiline.—At least it would not be unlikely that this augmentation of intensity and vigor be also determined by some acetate resulting through the decomposition of the iodide which leaves the base in presenee of the acetic acid of the ether. The same causes which produce the decomposition of the iodides, produce also that of the bromides, and the deterioration of the collodion rendered so much more active by it, as free bromine reacts on ether and alcohol more quickly than iodine in forming like compounds.

As well as the alcaline, the metallic iodides and bromides are decomposed in the collodion, either by the oxydation of the ether in contact with the air or the acid in excess in the pyroxiline, or by reaction of the ether on the metal, for it is well established that not only the potassium, sodium, and barium, oxydise themselves in ether, but that some metals undergo the same effect principally in presence of the air.

The deliquescent metallic iodides and bromide sare not generally very stable, and are easily altered by the air and dampness (such are the iodide and bromide of magnesium, zinc, iron, &c.) and give a collodion which does not keep as well as with other metallic iodides —It must be also remarked that contrarily to the alcaline, these iodides and bromides, and even those of cadmium (which gives the most unalterable collodions) produce a thickening of the collodion giving a more or less wavy film before any apparent decomposition takes place.

The collodion is more quickly decomposed by the iodide of iron than by any other metallic iodide ; it thickens in little time, and becomes like a jelly in two or three days, if the proportion of iodide of iron is large —It is at least, to remark, that the pyroxiline is rapidly altered in a collodion prepared with pure iodine ; this seems to confirm that theory which admits that, like the protosalts of iron, the iodhydric acid reacts on peroxide of nitrogen and regenerates the cellulose.

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* Is it not the alcaline base that form this organic compound? If to a plain collodion, modified by ammonia, and a few days old, some iodide is added, one obtains immediately a photographic collodion having the property of giving intense negatives.

Heat hastens the decomposition of collodions The action of light has been studied by Mr. Tiffereau, who observes that a collodion exposed to the direct rays of the sun during one to three days acquires a great fluidity and a sensitiveness, and is able to give instantaneous proofs even in an unpropitious condition of light, but that it loses afterwards these properties and becomes worthless in a few days.

Conclusions.—A.—In the preparation of photographic collodions, 1st. to employ ether and alcohol, perfectly neutral and newly distilled on caustic potash ;—2d to neutralize by washing with *very weak** ammoniacal water, the acid that the pyroxiline may retain between its fibres, and to dissolve it only at the moment of preparing the photographic collodion ;—3d to keep the collodion in well corked bottles without emptying, and sheltered from light and a too high heat — 4th. When the collodion assumes a coloration turning to red, to put in it some thin pieces of pure cadmium, to which combine the iodine and bromine in proportion as they are set free.

B —For very fluid collodions, to iodize with alcaline iodide and bromide : the collodion will not keep a long time, but when the decomposition is not very advanced, it will work as well as any other.

C.—To obtain a collodion giving a powdery, rotten film† as required for dry processes, to add a few drops of ammonia ; the decomposition of the pyroxiline being very rapid, the collodion will be worthless in a week or two, even with a little amount of alkali.

D —To prepare very stable collodion : 1. To proscribe any alcaline iodide and bromide, especially those containing an excess of base and the iodide of ammonium, which by its instability retains always iodine, and releases ammonia ;—to prefer metallic iodides and bromides, with the exception of those of iron : the iodide and bromide of cadmium give the most stable and quick collodion.

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* A too strong alcaline solution will render the pyroxiline insoluble.

† Old brown collodions prepared with alkaline iodide possess such properties.

NEW MODE OF PRINTING.—AMBROTYPES IN COLORS.

BY W. CAMPBELL.

Mr. Editor,—I do not know if the following be new or not. I am inclined, however, to believe that few are aware that the fumes of strong ammonia, when applied to plain nitrated paper, have the same effect as ammonio-nitrate on paper. If you will be good enough to direct the fraternity to this fact, it may be turned to some advantage. The experiments I have made lead me to believe that much handsomer tones are obtained, deep rich colors being the result of strong ammonia applied to the nitrated paper. The principal trouble I have experienced is the want of a proper recepticle for the ammonia, an old 4-4 daguerreotype mercury bath, being the best I could find I pour my ammonia into the bath, cover it with a very thin gauze to prevent the paper falling in, then cover the whole with the wooden top. You will see that this is a very rude mode of proceeding, but I am in hopes that some one may devise a better, if the experiments are found to be deserving

The obtaining of color on the plate is a matter of intense interest to every one, and we are tantalized every now and then by some one telling us they have succeeded in impressing a plate with certain colors Now, although I have never seen any of these, I am quite prepared to believe it; for I happen to have a plate of this description of a decided green color, if seen by reflected light, but of a decided red color if viewed by transmitted light How I got it, I cannot very well say, as it is twelve months ago*. The bath, however, was anything but orthodox. It is one I had been experimenting with, and contained a large quantity of acetic acid, and a very large quantity of carbonate of soda had been added to neutralize the acid. There was no trouble in getting the green color, and by a longer exposure (about one minute) I got a yellow, the most beautiful I ever saw; unfortunately it faded when drying the plate over a spirit lamp, and I could not get another.

I mention this as showing that color may be had, but it is not the "genuine," the real "simon pure," the "Hillotype."

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* We have a specimen on exhibition presented by Mr. Campbell, more than a year since.—Ed.

THE STEREOSCOPE.

BY JOHN F. MASCHER.

It is surprising to see the apathy existing among our artists with regard to stereoscopic portraiture. It was on the tenth day of June, 1852. that the first stereoscopic picture was taken in the United States,—said picture is a portrait of the writer. Over six years have therefore elapsed since this wonderful instrument has been introduced among us, yet how few, comparatively speaking, are in the hands of our citizens. Whose fault is it? Is it the want of appreciation on the part of the public, or is it negligence on the part of the artists, or can it be that the instrument has not yet received that convenient, portable and efficient form required to recommend itself to the favorable consideration of the public? I think it can be shown that the fault lies with daguerreotypists, who generally speaking possess less enterprise and business qualifications than any other class of our citizens,—they are a grasping and penurious set of men. They hold the sixpence so close to their eyes, that they fail to see the pound in the distance. They adopt improvements provided they are cheap They never contribute to elevate the art. It cannot be expected that such men supply themselves with an assortment of stereoscopic cases for their customers to choose from.

These liliputians eagerly grasp at the 4 or 5 dollars which they charge for a stereoscopic portrait, but demur against paying a dollar for the case! They charge $2 for a plain 1-4 size daguerreotype and case, whereas they charge $4 for a stereoscope portrait without the case!—The materials in a 1-4 stereoscope picture cost the artists 50 cents! the case costs $1 50, total, $2 for which some artists charge $4, some $5, and others $6. Is not that a prohibitary tariff upon the introduction of the stereoscope case? Would they not sell more and realize a larger amount by charging $3? Most certainly, they would. Let me not be understood as complaining against *all* our artists, nor as being uncharitable to *any*. My object is to endeavor to stimulate all to renewed action We have in this country every facility of disposing of stereoscopes. We have the stereoscope locket, cases from the 1-9 to the 4-4 sizes, the stereoscope book, portemonaie and workboxes; we have them at prices from fifty cents to twelve dollars each, of patterns to suit all tastes.

Volumes have been written upon stereoscope angles, yet there exists as much diversity of opinion upon the subject as ever. I was the first, three years ago, to demonstrate that the stereoscopic relief of the picture depends upon the *diameter* of the *lens* of the *camera* with which they are taken, to show that the relief is increased by a diminution of the size of the lenses of the camera, and actually to take pictures showing proper and abundant relief, with lenses 1-8 inch in diameter, situated 2½ inches apart, and incidentally to demonstrate by the same experiment, that pictures taken with lenses larger than the human eye, are not correct likenesses. A picture taken with the ordinary 1-4 size camera, is a conglomeration of 144 pictures as seen by the eye.

The human eyes are 2½ inches apart, yet they see objects in proper relief, and it is well known that pictures taken in the ordinary camera, at an angle of only 2½ inches base, do not show relief. To make such pictures show sufficient relief. requires the cameras to be separated 30 inches.

Pictures taken with large lenses at a great angle, produce contortions of the eyes of the observer in the stereoscope, whereas those taken with 1-8 inch lenses, and at the natural angle of 2½ inch base produce no contortion I desire your readers to remember that fact, for some persons viewing stereoscope pictures complain of the aching of their eyes, and attribute the same to the lenses in the stereoscope. The fault is in the picture, not in the instrument.

All the imported stereoscopes that I have ever seen, are defective in construction ; they do not show the *whole* picture in relief, because the lenses therein, are not whole lenses, they are half or even quarter lenses, and do not show sufficient field ; their defect may be briefly stated to be, that they do not show the position of the picture in relief. Again, I have seen stereoscopes with lenses of enormous size, they show too much field, and require and contain a diaphram, to prevent them from showing three pictures ; one in relief, and two flat ; none of these faults exists in the stereoscopes of my make ; they all have whole lenses of sufficient size to show the whole picture, and no more. In conclusion, allow me to put in a plea for the daguerreotype. I will ask any artist whether the daguerreotype is not superior to the unsightly ambrotype, or the coarse and fading paper. photograph ? Surely, the daguerreotype is as superior to these pictures as the sun is superior to the moon ; the only improvement to be desired in the daguerreotype, is in the mode of sealing them. We want a sealing paper that will not perish ; the glue and molasses, on the common sticking paper, engendering animalculæ, which in time consume the paper ; remedy this, and the daguerreotye is as perfect as could be desired.

Philadelphia, July 10th, 1858.

THE NEW CAMERA STAND.*

Mr. Seely, Sir,—I must confess, that among all the journals and various processes and improvements in apparatus, &c sent by mail at from one to ten dollars, I have never met with anything so cheap and simple. and that served the purpose for which it was designed. so perfectly as your new camera stand —a cut of which is found in the last number of your journal. Nothing but hard times and the money pressure has prevented me for the past six months from sending to New York for one of the heavy iron stands, which would cost me, delivered here, not less than $25. I have an extra 4-4 camera, that by propping up with an iron head rest, I have managed with great perplexity and trouble to get along with, mounted on one of the ordinary wood stands, with cast iron sockets. On seeing your cut, I was indeed skeptical, and could not believe so light an affair capable of holding my large camera with any firmness. But on reflecting that I had already found several suggestions you had made, prove exactly as you said they would, (and none that I had tried ever failed) I resolved at once to try the new stand, but was still too weak in faith to try the half-inch legs. I made mine one inch, but I am now convinced that half-inch legs will support the required weight ; yet I prefer 1 inch for a large instrument. Having wrought considerable in wood, I sat at once to work making the stand. The structure as it now stands complete, made of black walnut (our common timber here) cost me twenty cents—15 cents for 3 sets inch butts and screws, and 5 cents for lumber, and it is *more firm* than any camera stand I ever saw, and I could not be induced now to use the best iron stand manufactured, if I could have it at the same cost. And had I all the patents within reach, I should take this in all cases, except for standing pictures. I made it in less than half a day's work, and could easily make three, and I think four, per day. I made the top hexagon shaped, and let the standards straddle three points and put a cleat on each side, and one across the front end, in advance of where the legs were fastened beneath, to keep the camera from sliding off—When completed, I placed my camera upon it, and then sat upon the top of the camera myself, and it seemed the more weight I got upon it, the more firm it stood. I think it far more worthy of a patent than any other stand in use. Nothing will induce me to be without your journal hereafter. This one saving to me will pay for it at least ten years. Your suggestion about the iron strips, I think a good one, and I intend to attach them. My plan is thus: two straight strips of iron, each eight inches long, one having a slit, nearly the whole length, and the other solid, except a hole in one end for a wood screw, and one in the other end, for the thumb screw. The wood screws not being turned up tight, will leave each end of the irons (as they are fastened to the legs about where you represent the chains attached) to turn as the thumb screw is loosened, and the irons slide back and forth on each other.

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* See page 28.

It many times so happens that the artist would like his photograph lighter in spots than can be printed from his negative without leaving other parts too light and faint, as of persons' faces taken in an out-door view, in sunshine, the person standing in the shade, also in forming light clouds in the sky, or in representing the water more correctly, &c. In all cases if a small brush be put in a weak solution of cyanide of potassium, and the photograph touched with it, the spot touched will very soon become white. The paper should be dry when the brush is thus used, and should be thoroughly rinsed or soaked after using. Many photographs that are thrown aside as worthless, may be saved by this simple means.

Yours truly,

G. L. Reynolds.

Des Moines, June 25, 1858.

THE CAMERA.—ITS PROPERTIES, QUALITIES AND SELECTION.

BY H. GARBANATI.

It is almost needless to state that fine pictures are impossible with a poor camera, and though the remark will also apply to any chemical, yet the latter may be a temporary evil ; an inferior camera is a standing one. It is always with you, penetrates through all your operations, and influences all their results ; no matter what your skill, you cannot get the credit of it ; your productions are against you How foolish, then to buy a poor camera, which lessens your profits by limiting your business, when a few dollars more, would give you the benefit of all your talent, and the profits of one day might perchance pay the few dollars. A poor camera, can at best be tolerated to obtain mere chemical effects. But those who are able to test chemical effects, want to produce works of art also ! Very superior cameras are made in the United States ; probably they will average with those made anywhere else. The essentials of a first rate camera are—sharpness, field, and depth of focus, these qualities are rarely found in perfection combined ; indeed, opticians assert, that to produce all those qualities in perfection combined, is impossible, and that one or more must be modified. Hence different makers aiming at the nearest degree of perfection, vary their modes, and fix their standards according to their own notions. Nevertheless, cameras sre sometimes made so near perfection, with the objectionable qualities so little obtrusive, that they are quite good enough for all practical purposes. In their desire for perfection, however, the best makers sometimes turn out inferior instruments.

The leading camera makers in the U. S, artists have by universal consent, acknowledged to be, C. C. Harrison, and Holmes, Booth & Haydens, and though there is but little difference in their productions, yet each, having a theory of which combination of qualities is the best for producing desired results, reproduces the same characteristic of divergance, when any is visible.

The characteristic of the cameras of Mr. Harrison, is sharpness combined generally with depth, though that combination is seldom attained. In the desire of obtaining this end, the field is often limited to the extent of requiring a much larger camera to take pictures of the size the name of the camera indicates. Messrs. Holmes, Booth & Haydens, on the other hand, aim at depth and field, a better combination, yet seldom sacrifice the sharpness sufficiently to disadvantage the result; indeed their cameras are usually sharp enough for artistic results, sometimes as. sharp as those of any competitors; but when it happens one is very "sharp," it is at a slight sacrifice of field, their theory appearing to be, never to lose depth.

The desire for mere sharpness appears peculiarly American; it is the quality first sought after, and often is sufficiently attractive, to obtain the good will and cash of many, without further examination.

But the desire does not display the artist, since it limits position and confines limbs. How often do we see pictures —portraits of *features*, certainly not of expression and ease,—with the head stuck up as if a skewer were run through it, the hands, if shown, (why will most people insist on it?) forced close against the body, the feet thrust under the chair; and why? because the operator is no artist? not always—because the sitter is awkward, and won't be "fixed?" sometimes, but generally because the camera has no "depth" and any projecting limb would be vague and out of focus. In an artist's hand, a deep focused camera will allow position; he wants sharpness, but not mere sharpness—it's not natural. Whoever saw a man at a distance with every feature as sharp as required in a 1-6 size picture. There's a lady sitting just ten feet off, can you see every hair in her head as distinctly as if you were close enough to fix it against that stiff unyielding head-rest, that makes her look so starched, and renders her nervous with its pressure? Certainly not, distance softens distinctness, and you have no right to demand it, more than is required in a perfect and distinct likeness, a likeness that will cause every one to say in an instant, "There is Miss Pretty," or the youngest child to cry out "Mamma." You don't want to show in all perfection, her freckles, in preference to her face, or the contour of her features, or her may-be-not-over-clear-and-smooth-yet - very - white skin, in preference to her lady-like ease. Sharpness, my good Sir, is not the only requisite in an artistic picture; there are other requisites.

Neither can you sacrifice "field," without rendering your outline dim, or placing your "outsiders" in a group, decidedly in the shade, their features shapeless and unknown.

There's Mr Bromide at this moment arranging for a group of seven,—three sitting, and four standing—is that just what they require, or is he at a loss how to dispose of them?—Just look again, there's one with a hand on his knee—his right one—the man at the other end, has his left just to match, you know; the middle one has a hand on each knee, the backs carefully fronting the camera,—it would not do d'ye see, ever to show the inside, even per accident, because the convex would show a shade.—The four standing have their heads thrust forward between, and on the side of the heads of the sitters so as to be on the same plane; that one has his hands on the shoulders of his fellows, because they are in the way, and it would not do to cut them off for the occasion, and besides, it gives a careless (decidedly), and easy look. That one, has one hand thrust in between the heads of those below him, and appears to be adjusting the collar of one of them, his other hand is lost in space; the two "outsiders" have their hands hanging down by their sides, so as to round off the group. See how carefully Bromide arranges his sitters in line, like a platoon of *light* infantry; now he goes to one end and squints along the line, as a carpenter will along a board. He wants to see that no nose projects, and was about telling that gentleman in the middle to fall back, when he discovers his nose is longer than his neighbor's, so allows its point to be "out of focus" And why all this care for getting into line? simply, because the camera has neither field nor depth, though it is wonderfully sharp, (still he might arrange them into a slight arc, to counteract the want of field.)

So, Photographers, you have my opinion as to the relative merits, of the merits of the variations of the three qualities that constitute perfection in the camera. If you intend purchasing a camera made by one of our celebrated makers, get a Harrison's; if "sharpness" is your chief consideration, and if depth or field, a Holmes, Booth & Hayden. For my own particular part, though I desire sharpness, depth and extent of field are my desiderata, and a first-rate optician will not sacrifice too much sharpness in their attainment. I am borne out in my choice by the chief artists in Europe. And the best opticians there so make their instruments, though whether to follow or lead taste, I know not, still Europeans have done most to render the photographic art scientific, and we are apt to say they do not make their pictures as sharp as ours.

EDITORIAL MISCELLANY.

———Our European friends must look to their laurels.

Photography surely had its birth in Europe, was carefully nursed through its tender age, was a great pet with all classes, and has always been rugged and healthy. But its parents (like all parents), sometimes display a fondness which is unbecoming in others' eyes. They seem jealous of attentions of strangers, however innocent and well meaning they may be.

To read some French books on photography, one might suppose that the art exclusively belongs to France,—that Frenchmen alone had invented it, perfected it, and were capable of practising it. In such books you find French names, with now and then a mention of Talbot and Archer as *claimants* of French inventions. Generally in foreign photographic publicatons, American photography is altogether ignored, or is named with a sneer, and associated with Hillotype pretensions.

Now, receiving reproaches with proper meekness, we ask justice. Very bad men are willing to give the devil even his due. Will not some of our foreign cotemporaries sometimes declare that a little good may come out of America? Please consider a few statements, and say how much they are wanting in truth.

American photographers are entitled to praise for their practical skill. Photo-lithography was invented by Joseph Dixon, an American, in the year 1840. Whole lenses were first used for stereoscopes, by John F. Mascher, an American, in the year 1852. Photographic portraits, full length, and larger than life, were first made in America. American apparatus is generally superior, in fitness for use, to that of any other nation. Photography was first made a business in America

Our claims to notice are by no means exhausted. On some future occasion we may extend the catalogue.

———The article by Dr Vanderweyde. on page 49, will prove of interest to those who are curious about the history of the camera. It is reprinted from the old series in order that our new subscribers may have the full benefit of what the author proposes to write.

Of late a great deal has been said in foreign journals about a so-called "orthoscopic lens" claimed as an invention of Petzval or Voigtlander. The new lens is composed of a convex mounted properly in front of a concave. By the following extract of a letter from Sir Henry Wotton to Lord Bacon it appears that the illustrious Kepler had invented the same thing more than two hundred years ago. The letter was written in 1620, Kepler died in 1630.

"I saw in his" (Kepler's) "cabinet a landscape sketch on paper which puzzled me very much, and which was made by the hand of a master, I asked him who made it,—he answered me with such a smile that I infered it was himself; and he added that in making the drawing he had not acted as painter but mathematician. This perplexed me. He informed me then, that he had a small portable tent, of what material is of no consequence, which could be easily set up in the open field, and when he pleased, turned like a wind-mill in any direction, carefully closed and dark, with the exception of a small hole of an inch and a half in diameter, to which is fitted a long perspective tube, *in which is set at the outer extremity a convex lens, and a concave lens at the other*, which penetrates into the interior of the tent, and by which the visible radiations of all exterior objects are introduced and fall upon a sheet of paper stretched to receive them. Nothing is more simple than to trace with a pencil or pen all the outlines of the picture, and to reproduce it in its natural truth; when it is finished turn the tent gently, and take a new view. Thus you may draw the whole horizon. I send this description to your Lordship as I believe this apparatus may render good service to Chorography. It would not be very generous to apply it to landscape, for no painter could compete with nature."

The above is translated from the French. The italics are our own.

———The following curious epistle was sent to us anonymously. The original document may be seen at our office. We value it as evidence that we have done some good. Could any other than a humbug or patent process pedler have written it?

"We do not think it is usual to increase the price of goods at the same time their quality is deteriorated. Yet this is your case—your Journal has its price raised, and its quality, so far as the new volume goes, is beneath criticism. M. S's lachrymose lamentations on the small circulation of his former volumes was bearable (because the pieces from the other Journals made up to its subscribers for any inanimity in the "original matter") but the crude vulgar wit in the original H. Garbin— are intolerable—the more so as there is no redeeming matter in any single page of the new volume.—Did it never occur to you that to those who take your paper, such insinuations ('sic!') are insulting, an to those who do not they are useless, as they never see them? Praise your own goods as much as you please, and puff your own inventions with any amount of hyperbole you please, people can take them with the proper quantity of salt to digest them properly, and you need not fear any of your assertions (however mendacious), can be contradicted in your own Journal, seeing you can stop them *in transitu.*

It is not possible that the publishers of "Good News and Glad Tidings" can be put out of counntenance by anything that can only reach their own eye or ear

Our subscription for the year is paid—but we would gladly receive as the equivalent of. and substitute for, the balance of your Journal, any foreign publication of the value of 25 cents, or failing that, one of the cheapest spelling books."

———It is generally understood in the United States, that Mr. John F. Mascher first used whole lenses in stereoscopes. We shall probably hear from him with particulars on the subject.

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[*Second Article.*]

ON THE METHOD OF ENLARGING PHOTOGRAPHIC AND OTHER PICTURES.

BY P. C. VANDERWEYDE, M.D.

In the first article on this subject, (p. 49) the reader will have observed that all the difference between the apparatus of *Mr. Dixon*, and that of *Mr. Moore*, mentioned page 140, of the former volume, is, that the first is a *solar microscope*, the second a *megascope* The apparatus made by me, and mentioned in page 50 above, was intended for both, and for a colupal *magic lantern*, besides being furnished with a great number of different lenses.

I intend to prove, now, that the *inflection* and *diffraction*, spoken of by Mr. Dixon in the article page 139, does not exist in any degree to influence the obtained photographic picture at all.

First, I will destroy one of his strongest arguments. Mr. D. says, page 140, that all photographers know that if the glass negative is placed in the printing frame, with the collodion side up, and the paper at the other side, an imperfect impression is obtained *by reason of the inflection of the light along the dark edges of the picture;*—that the impressions by this arrangement becomes imperfect by the ordinary way of printing is true, but only because in exposing to the sun or daylight, a great quantity of light comes from all sides of the sky, obliquely, and enters between the collodion and the paper;—but try only to have the light to proceed from a single point, (just the light you want to produce the phenomena of diffraction) for instance, place your printing frame in the conical beams of sunlight proceeding from behind the focus of a lens fitted in the shutter of a darkened room, and your print will be sharp, even if the collodion is at a distance from the paper. Or try to print on a wet sensitive collodion plate ; here daylight is not preferable, first because it is so strong that the time of exposure becomes inconveniently short, and second, you cannot lay your collodion negative in contact with the sensitized collodion without spoiling both ; some distance must be left, and daylight will in this case again come between ; here lamplight is preferable ; now if your lamp or gas flame is small and steady, in a few minutes a beautiful sharp positive is obtained, (to be seen by transmitted light) but if the flame is large or glittering, the product is a woolly picture.—I can show many products of both processes to prove this. So we see inflection has nothing to do with it.

I will not deny that, mathematically speaking, there may exist some inflection of the light around very sharp opaque edges of a negative, but the distance must be much larger to make it all appreciable, and the want of sharpness in the print is certainly infinitely more attributable to the source of light not being a mathematical point, than to any inflection of the rays.

That the magnified picture of Mr. Dixon's apparatus is not well defined, does not arise from any stubborn law of inflection, but to the apparatus itself; the editor of this journal already mentioned such causes, page 144. The usual philosophical experiments to prove inflection [see pp. 139, 140] is a different case altogether ; I have only a few facts to remember to make this clear.

Professor Draper, of N. Y. University, was, if I am not mistaken, the first who made enlarged daguerreotypes with the solar microscope of transparent, and with the megascope of opaque objects. The illustrations of his work on human physiology are mostly made after daguerreotypes and photographs, some of them magnified 250 and even 500 diameters. I am prepared to show any one interested in it, daguerreotype specimens obtained by transmitted light, with all the outlines as sharp defined as any one can desire, (where is here the inflection ?)

What now is the cause of the sharpness, while the common enlarged photographs are so imperfect in this respect? the cause is twofold :

1st. We all know that small lenses are in proportion much better than larger ones, so that to enlarge very small objects, 100 diameters, the result will always be more satisfactory than to enlarge large objects only 10 diamters.

2d. The objects I speak of, of which daguerreotypes were obtained, were nature's production of the most minute perfection, of a so admirable finish in detail, that the present collodion or any negative made by its help is comparatively rough and course, and cannot bear to be much magnified.

I cannot omit to suggest, finally, that Mr. Dixon will ascertain if the difference in the action of his apparatus with that of Mr. Moore's is not in the lenses themselves, and modify his to use reflected light, which is very easy done, or to use Mr. Moore's with transmitted light, perhaps both will work always in their own way, the first never well defined, the last nearly as well with transmitted as reflected light.

If this is only found partially so, experiments have to be taken with different large lenses, to illuminate the transparent object from behind; a long experience with the sun microscope and similar instruments, has persuaded me, (and probably a great many others), that it is of the greatest importance that the large lens, or lenses which illuminate the object, bear a certain proportion in focal length and size to the small lenses, and that to have perfect sharp images of any object, the surface intended to receive the image must be first equally illuminated by here placing the object in focus ; and I have no doubt that inflection or diffraction cannot be so much as to prevent transparent pictures being taken very near, perhaps entirely as sharp as opaque ones, provided the right arrangement of lenses is hit upon.

THE POSITIVE COLLODION PROCESS.

BY D. C. P.

Collodion.

Sulphuric ether, sp. gr.	0.720	6 fl. drach.
Alcohol, sp. gr.	0.809	4 " "
Tincture of iodine, cone		1 drop.
Iodide of potassium,		4 1-2 grains.
Bromide of cadmium,		2 "
Pyroxiline,		6 "

Silver Bath.

Water,	1 fl. ounce.
Nitrate of silver,	35 grains.
Tincture of iodine conc,	1 drop.

Developer.

Water,	1 fl. ounce.
Sulphate of protoxide of iron,	30 grains.
Acetic acid, No. 8,	45 minims.

Fixing.

Water,	1 fl. ounce.
Cyanide of potassium,	17 grains.

Black Varnish.

Spirits of turpentine,	1 fl. ounce.
Asphaltum,	90 grains.
Yellow wax,	15 "
Lamp black	15 "

Generally the negative processes are founded on the principle of deep impregnations, *id, est.* the sensitive film is very thick, contains a large proportion of iodide and bromide, is sensitized with a concentrated silver bath, often containing some very easily reducible salts of silver, or a reducing agent that gives birth to them ; also in those processes, the sitting must be a little lengthened, and the developer uuited to an excess of nitrate of silver, in order that the amount of reduced silver which forms the negative impression—being in a deeper and more opaque layer, that the proof acquires a great intensity. In the process of direct positive on collodion, which are nothing but a *weak negative*, the opposite principle must be followed : that of thin preparation, less iodized and sensitized, with a silver bath, relatively weak and that far from containing an accelerator, contains on the contrary an acid exercising a retarding action and preventing the formation of silver salts, more easily reducible than the nitrate.—In fact, the picture being formed by reduced silver deposed in fine powder of different thickness, it is easy to conceive that if the developer united to a small quantity of nitrate of silver, find a film with a small amount of iodo-bromide of silver, acidulated by nitric acid, its action being limited* and slacken in the parts impressioned by the high lights of which the action was retarded by the nature of the film) permits those less impressioned to develope without the first ones be solarized and can give but a very weak proof even if the sitting has been lengthened.

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* The reducting action of the sulpfate of protoxide of iron is limited by the amount of nitrate of silver free on the film : as soon as the nitrate is reduced, the sulpfate ceases to act.

The principal difficulties of the positive process are all in the developing and the time of exposure, which ought to be as precise as for a daguerrean proof.

The developing cannot as far as negatives be pushed until the sulpfate of protoxide of iron does not act any more on the impression, that would always determinate very gray whites, and more or less of that superficial veil, like that under which is concealed every negative developed with sulpfate of iron, when it is viewed by reflection—it must be stopped long before its reduction be exhausted ; thus the exposure must be a little more prolonged than it is necessary.

The over-exposure, like the over-developing, gives solarized proofs, altogether too much out in every part. By excess of exposure, the whites (provided the developing has been well conducted), are always *white* and the *proof remains limpid and clear ;* whilst a proof too much developed loses always the brightness of its whites and *is more or less overcast with a superficial reduction that gives it a veiled appearance.* A too short exposure, as well as an insufficient developing give proves with great oppositions of lights and shades, and want of details in the black and coloured parts of the model. However, it is very easy to distinguish between the want of developing and that of exposure ; for the latter will never give harmonious proofs whatever by the time of developing. The brightest whites and the purest blacks are always obtained by the shortest possible exposure to bring out the details in the blacks with a developing of fifteen or twenty seconds. *id est* in about half the time that the developer would act.

The exposure varies for a likeness taken in a sky-light from 2 to 10 seconds ; in full sunshine, it is rigorously instantaneous. The picture is developed in following its coming, not by transparency, but by reflection : as soon as the high lights are well accused and the details of the blacks commence to appear, to stop the developing by a thorough washing.

Collodion. — Silver Bath.—When the collodion is not enough iodized, or the silver bath too concentrated, the proof generally wants harmony, the whites are very fine, well modeled, but the blacks are without any gradation, any details. With an over iodized collodion, or a weak silver solution, the iodide of silver being no more perfectly formed, the preparations are not very sensitive, and the positive is unequally developed. It can even occur that the iodide of silver instead of being in the body of the film, be entirely upon its surface, and easily taken away by a gentle rubbing.

A silver bath too acid, renders the preparation less sensitive and gives a film not wholesome, which comes off and tears itself when in the bath, or during the developing, fixing and washing.

Sensitized with a neutral bath, the film is very sensitive, but easily solarized or veiled—the proof being generally not very harmonious.

The silver bath is very slowly acidulated with collodion, prepared with cadmium compound. It is neutralized with oxide of silver, newly prepared, and when yet wet.

Old silver baths determinate gray proofs, without vigor and brightness; that effect is owing to excess of the nitrate of the bases, of the iodide and bromide in the collodion, that prevent an equal developing, and to the organic matters. When a bath is old, and out of order, it is better to not try to fix it, but to make a new one ; for it will never work well again.

Sulphate of Protoxide of Iron.—The action of the sulphate of iron is exceedingly great, on the beauty of the tone ; often it is believed the causes of failure are in the collodion or silver bath, when they entirely exist in the developer. With impure ammoniacal sulphate it is not possible to produce good proofs, as tone, and coming out, and all the signs characterizing an old silver bath, containing very reductable silver salts, or a developer acidulated with sulphuric and nitric acid will appear. Pure sulphate of protoxide of iron must be employed, and it is good to dissolve it some time in advance in order to let it settle the sulphate of peroxide, which action is very prejudicial.

The developing solution must be prepared every day—an old developer gives too vigorous proofs, and metallic whites when it is very colored.

Acetic Acid.—The impurities that this acid generally contains are sulphuric acid, and acetate of soda.—All exercise a hurtful action on the direct positives ; the sulphuric acid gives metallic tones and cool. White without velveted (*voloute*);—the presence of acetate of soda hastens the developing and determinate proofs more or less contrasted, solarized—often veiled, and with gray white ;—the muriatic acid is the most to fear for precipitating silver of the nitrate in chloride, it deprives the impressioned film from a part of the nitrate of silver so necessary to develope the latent impression ; thence proofs unequally developed, and having a dull and blackish appearance.—For that same reason the water employed to make the solution must be free from any salt precipitating the soluble salts.—The direct position being, as it was said, nothing but a too weak negative making positive by a reflecting light (*n'acquirert de valeur que*) viewed or colored grounds which(*fait ressorter*) render the details of the obscure parts quite invisible by transparency, the lights being produced by a deposit of reduced silver, forming little transparent whites that cannot alter the colored ground. This ground is obtained either in framing the proof upon a black, brown velvet or in making it on colored glasses, japanized paper, and sheets of iron (in these cases the picture is reversed) or at last in coating the proof with a black varnish.

The bitumen of judoc varnish ought to be applied on the proof only after having varnishing it with a thin dissolution of tender copal in alcohol, or better in benzine.

If the proof is to be colored, it will be covered with a layer of gelatine, upon which the wet or dry colors are applied ; the black varnish is then spread on the back of the glass.

ON THE AMMONIACAL COLLODION.

BY P. C. DUCHOCHOIS.

The new preparation of collodion which was published in No. 3 of this journal, can be as well appropriated to dry processes that I tried to render it as perfect as possible.—Indeed I employed, with uniodized preservative, or with iodized gelatine and albumen, as well as without any kind of preservative, that collodion has often given as good results in the numerous experiments I have made : never any raising, never any blistering. However, it will be found of great instability, for it does not keep in good condition more than a week or two ; the ammonia decomposing the pyroxiline so powerfully, that the film becomes without consistency, and very opaque.—It is therefore necessary to neutralize the action of the alcali in order that the collodion can keep as long as any other. The acetic, iodhydric and bromhydric acids answer very well that purpose and DO NOT CHANGE the properties that render the collodion so propitious for dry processes. But what is equally important is, that whether the iodide and bromide of cadmium (or any metallic base, iron excepted), are employed in its preparation, it does not thicken as collodion prepared with those iodides, according to the ordinary formula ; thus removing the only objection to the use of metallic iodides and bromides in negative or positive collodions, for *wet* and *dry* operations.—Even it seems that the very porous and divided state of the film, is more propitious to the sensitiveness of the preparations, and determinate a greater intensity of the negative.—It is also worthy of remark that the ammonia rendering the collodion very florid, almost every soluble pyroxiline can be employed to prepare it.

The new improvements made to the collodion are thus : —To prepare the plain collodion by adding a few minims of liquor ammonia, which is left to set 4 or 5 hours ; then, 1st, to neutralize with acetic acid if the collodion must not be iodized, and serve of support to gelatine or albumen, as in the process of M.M. Gaume, Bayard, Crookes ; 2d. if the collodion is to be iodized, to neutralize with iodhydric or bromhydric acid, and if one fears the effects of an excess of acid, to add some carbonate, and filter, after having shaken for one or two minutes. The modified formula for dry collodion, with or without uniodized preservative is

Ether, sp. gr. 0.72 - -	6 fluid drachms.
Alcohol, sp. gr. 0.809 - -	2 " "
Pyroxiline, (Seely's) - -	6 grains.
Liquor ammonia, - - -	2 drops.
Bromhydric acid, - - -	4 to 6 drops.
Iodide of zinc, - - -	4 grains
Bromide of cadmium, - -	½ " .

Silver Bath, developes as in my first communication.

CAMERA SHIELDS—THE SILVER CORNER.

BY H. GARBANATI.

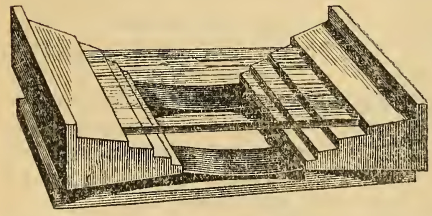
For a Journal, advocating the interests of Photography, it is just as necessary to make known improvements in apparatus, as in modes, processes and manipulations.

With the issue of the first number of the New Series of the American Journal of Photography, an invitation was freely given to manufacturers having improvements in apparatus, to give a description of the same, the Editor reserving the right ot comment. Now, if manufacturers have no improvements, they cannot of course give a description af them ; but, if they have and are too bashful ! or modest ! ! why some one must do so for them, for the interest of the profession is paramount.

The Plate Shield is one of the most important articles of apparatus, since it is required to guard the Plate from the least influence of light until the proper time, and also, to retain the various sized plates in the same focus. In Europe, they are somewhat primitive and crude in this article, and produce *cheap* contrivances But we need not boast, in claiming a general advance in articles of Photographic Apparatus. Our first and most reasonable form of Shield for isolating the Plate from the wood work of the Shield,—excepting, at the corners, where a small stain would be hidden by the "Mat,"—was by fastening pieces of glass by means of gum shellac, it was soon found the pieces become detached, which, besides roaming over the Plate to its damage, were the means of putting it out of focus and causing stains by coming in contact with the wood ; and also, the long stream of solution dropping from the Plate, mingling with the stains of the wood, would be drawn up the Plate and spoil the impression This was, and now is a serious inconvenience to operators, especially those in the country, having but one Shield, their business being much damaged whilst waiting for another. Messrs. Lewis obviated this difficulty by a solid Glass Corner which they patented, but which at first proved of very little advantage, by the corrosion of the screw that held it in place, they now dispense with the screw ! and gum and wedge, yet this narrow piece of wood forming the wedge must corrode shortly, by the action of Nitrate of

Silver, which renders wood brittle and rotton. Messrs Seely & Garbanati then brought out their Silver Corner Shield: The silver being pure is entirely impervious to the action of the silver solution, and is more likely to increase than decrease in size, the form of it prevents the accumulation of the liquid in the corners, which is likely to cause stains when the Plate is quickly put in the Shield, from splashes, which so much puzzle the tyro, it also, being driven into the face of the frame, serves as a key to hold the corners of the same, and will hold it together when the wooden key has corroded away. This Shield is also furnished with a Vulcanite anti corrosive spring the brass ones in common use, becoming corroded in a short time, soon fail to perform their office, and run the risk by their corroded shortness of breaking the Plate, or at least scratching it. The other improvement is a Vulcanite Slide, certainly one of the greatest improvements in the business; the slide first adopted was of zinc, which became corroded in a short time, and at the same time amalgamating with the solution caused stains, this was very soon rejected for a wooden slide, a decided improvement, but, which also soon corrodes and is liable to warp, swell and crack. The Vulcanite being liable to none of these evils, and capable of outlasting the wood work of the Shield, appears to be a necessity; being hard and smooth, it slides of its own weight into its place, and can be easily withdrawn without in the least shaking the camera, so liable in the case where the wooden Shield is swollen or warped. The silver corner Shield with Vulcanite Slide and Spring is no dearer than the common glass corner one—with wooden slides and brass spring, and will be a patented article.

A NEW VISE FOR CLEANING GLASS PLATES.



This Vise, of which the accompanying is the cut, is the invention of Mr Griffin, one of the pioneers in the Art; it is a very simple and effective contrivance, and is but little longer than the width of a whole size plate, it is made by a series of two sets of steps, apart the length of the different sized plates, one set of which rests on the ends of two springs, and is fastened to a base which can be fastened to the bench, the other set is fastened to the other ends of the springs. When a plate is to be cleaned, the end attached to the springs is simply to be pressed down, and the plate put in its respective place, when it is held tight by the pressure of the springs ; they can be made to suit any size plate. To loosen it the same operation has to be performed.

These Vises will soon be in the market.

A LETTER FROM AURORA.

Mr. Editor—You see I hail from Aurora, some folks say I'm a roarer since I make myself heard, read, I should suppose, as you know me best by black and white. People do say " A rolling stone gathers no moss," which if I fail in gathering, I make up for in in getting *down*, for I'm down again seeking after my moss, which consists of " rocks."

I took a sudden whim to see if there was an opening in Cairo ; having heard of Grand Cairo going down, I thought it quite possible little Cairo might go up by way of equivalent, but when I arrived I could not find the City, it was lost, mizzled, perhaps in a mist. for it was missed one night by the inhabitants, who, intent on visiting their neighbors, found they had no neighbors ; or rather their neighbors were in tents. Some said the city was stolen, as robbers had been known to ramble in the vicinity with very capacious pockets, others that it had been sold for taxes, others again, that having met with a great loss it was pawned and stowed away in the garret of one Levy, who had levied on it and preferred not leaving it in its accustomed spot for customers to congregate in, but certainly it had travelled away at a tremenduous gait, taking with it gates, trees and other improvements. An operator contended that it had been swapped for a "dry process," which I would have believed but for the fact that it was covered with water, island chimneys, and insulated steeples alone being visible. Not to be entirely disappointed, I had resolved to point my Camera with a view of taking a sight of the City, only the site was lost to view, and the City was not to be seen ; after all, the most plausible reason for its loss is, that after a heavy rain one night, a high pressure steamer passed along its main street and pressed it out of sight, and thus desolation reigns supreme, and ill luck showers on its people

By the way. you omitted in my last, my Pen and Ink Portrait of a "Process Peddler," I do not blame you for the omission, since a man of microscopic mind might be annoyingly litigatious, but in omitting my Star Quack, you should have added stars of your own to prevent the article looking lame.

By your last number it would appear as if you had shoes for sale, and one of your customers had got pinched. A man must be desperately hard up for a channel for spleen, when he asserts your journal is deteriorated in value, yet you must not feel offended with him, since some of your new subscribers having through said anonymous man, an exalted opinion of your old series, may buy the back numbers at the low figure marked. But do let us know when and where you send that "Spelling Book ?"

An enlightened Daguerreotyper and Photographer in my travels was anxious to know all the news. "What's that new instrument they crack up so now-a-days ?" Asked he. I suggested a number, real and imaginary, its "Meg something" says he, "Meg Merrilies" says I at random, and for fun, "Something of that sort" says he. I took pity and named "Megascopic Camera." He hadn't seen Charlotte Cushman. I am under huge obligations to you for those foreign journals you sent me. You seem to look after my welfare and I hope you may fare well for so doing. I remark how different the tone of them, so many, and yet full of contributions, each giving experience, all anxious to elevate the Art. In Europe they treat the Art as scientific and artistic, and it certainly partakes of the nature of both; the Photographic artist have as much room for groupings as the painter, yea more, since his means are limited by the want of "depth." In the Art, we Americans appear quite un-Anglo Saxon, since it is a practice of the Anglo Saxon mind to grasp at difficulties and overcome them.

Every week proves the Art has vast scope for science also, we trust now to the Camera for depicting the results of explorations rather than the pencil ; the pencil may err, travellers may spin yarns.—Bruce was doubted,—but the Camera is confirmation "proof as strong as Holy Writ." Only think of the "Water Camera," of taking the likeness of rocks and shrubs under the water if clear enough ; sinners had better look out, or schemes, plots, treasons and tricks, and all sorts of rascalities will be depicted in their hatchment and achievement, and handed in as proof to magistrates and science, Then again, these foreign journals tell us that Photography has given a vast impetus to chemistry, that some of the clearest headed men in Europe—some of the most celebrated chemists, have devoted much time to its improvement, and discovered new chemicals for its use ; chemicals also, of likely utility for therpurposes than Photography, and the clear headed men and Chemists are appreciated. Pah ! I'm disgusted at our mere money-sucking uses of the great Art, at the closeness with which we keep our improvements, the patent-seeking spirit with which we make known any variation of known modes. I really feel as if I could preach a crusade against quacks, with a view of ennobling the Art, only fancy " Gossip the Hermit," I tell you my task would be harder than Peter's, he had but to arouse natural prejudices and rampant ambition, I should have to wage war against pocket interest ; I am already appalled though Peter was not, my courage oozes out, I am merely

GOSSIP.

URBS IN RURE.

BY THE EDITOR.

A Chinaman's chopstick was once an object of great curiosity. It is only unfamiliar things which excite our wonder. The owner of a museum knows its value only by the interest it excites in others. Strangers are generally acute observers. We are apt to take a superficial view of what is constantly before us leaving the interior to be explored by such as we might esteem ignorant adventurers. Is it not always the rule that inventors, leaving their own trades or professions, poach successfully on their neighbors ?

Having shaken off the dust and care of the city, I find myself here among novelties,—things constantly challenging wonderment and study ; yet my good farmer friends see only hay and corn in the fields and far little under the earth besides potatoes and angle worms. Some of these things (much, only speculation) I deem of sufficient pertinence to Photography to write out for the journal, I am writing on a spot surmounted on three sides by a mountain prospect. The hills are mostly at such a distance that we only see their blank form outlined by the sky and the intervening meadows and woods. Their color is outlined by a deep blue without a trace of yellow. But whenever the sun shines on the hill and not on the intervening objects, the parts illuminated are of a brilliant greenish yellow. Moreover, in that yellow light the objects on the hill are clearly discernable. Now in explanation of this curious phenomena I would only suggest that the reflections from dust particles, or possibly from particles of the air, may account for the indistinctness when the whole landscape is illuminated. The reason of the yellow light from green foliage, coming through blue air is not so apparent. The particular pertinence of the case to Photography consists in its teaching us that if we desire a clear view of a distant object, we should seek a time when intervening objects are in the shadows of a cloud.

Why is the sky blue, plants green, flowers and fruits of such varied hues? are questions which my presence in this delightful region have suggested. Nature orders everything for a season. There is no doubt a wise purpose for every tint we see. Nothing has been done in vain.

Sir Isaac Newton taught us that white light is a compound of seven colored elements, viz: violet, indigo, blue, green, yellow, orange, red, (named in the order of their separation or refraction by the prism). Moreover, it is known that these elements possess, in addition, chemical or actinic and illuminating power in varying proportions. We may assume that light performs its various functions by virtue of its elements and its properties. For example, where actinic force is specially required there go the violet rays,—where heat, there red, all other rays being eliminated and discarded.

Now we know that plants cannot live without the light. I assume for plainer illustration that light is food for plants. Plants eat or drink the light especially through their leaves; but they are dainty,—taking, in first the whole body of light, then carefully selecting what they can digest or assimulate, they discard the rest. The color therefore which they emit, by which only they are seen of men, are their forces or excrements. The beautiful hues of the rose are the only rays which are useless to it. We hence easily learn what plants most love or hate. Plants are generally green. They abominate green,—they cling to everything else. We infer that the chemical and heat rays are generally nutritious. We have found no leaves which rejected these—no healthy leaves which were blue or red. Is the sky blue, that plants may feed from it, or has the air absorbed the rest to feed the plant in another way ?* Each plant has properties and color peculiar to itself. No doubt a careful examination would show that these bear some definite relation to each other. It is a notable fact for example, that plants with blue flowers are generally poisonous. I have noticed in my walks in the garden, that the plants of most rapid growth, and the young shoots of plants are of a livelier color, with more yellow. Such make more use of the blue rays,—and when plants are dying (fruits ripening) they become yellow, orange and red. Is it the recovering effort of nature, or is it the blue rays gradually prevailing to poison the life ?

I have had here an excellent opportunity of confirming an observation I have made for some years, viz : that the progressive changes of color in nature, are in the order of refrangibility, as given above, (violet—red). The Photographer is familiar with a very interesting illustration. If a silver plate be placed over the vapor of iodine, it passes successively through the series of yellow, orange, red, violet, indigo, blue, green, yellow, &c. The first color of collodion is yellow, changing by age into yellow, then red. Proto and her salts, if of different colors, are in the order indicated. Any one familiar with chemistry can recall many illustrations. Now as to plants—the green generally turns to yellow, often to orange, and sometimes to red. How beautifully these changes are illustrated in the pumpkin, tomato and fruits and berries generally ! Some cases as in the plum and whortleberry, progressing as far as the blue. Indeed I know of no exception to this rule of progression, and I do not hesitate to declare it a law of nature. No doubt there is a reason, and a multitude of curious things underly the fact, which observation and study will disclose.

Northampton, N Y. July, 1858,

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* I confess to some indefiniteness here. It may be plausibly contended that red rays only are absorbed by green leaves. On the basis of the common theory of three primary colors, the text would have been different.

EDITORIAL MISCELLANY.

———We have received a number of London newspapers with complimentary notices of the Niellograph as practiced by A. G. Grant, (Grant & Alcooke,) late of Broadway. Amongst others the Mechanics' Magazine, after a highly flattering notice, mentions that Mr. Grant is about obtaining a patent for his mode of working it.

We have all along considered the Niellograph a very superior picture when made by a skilful artist, and know no reason why it should not take first rank as a collodion positive.

Its lightness and exceeding pliability render it of much value for sending in letters to Europe, California, and other distant places. There was a time and perhaps is, when quite a large express business was done in the transmission of daguerreotypes, at a cost of one dollar and upwards for expressage, the certainty of damage rendering it useless to send them without properly encasing. Artists need not fear any decrease in their business, through delivering pictures without cases, on the contrary, their availability opens an extensive field for increase, whilst the Niellograph will command as high a price without a case as the majority of artists in this *cheap* age obtain for a cased Ambrotype. Grant & Alcooke made money fast at Neillographs, why not others? Circulate your works, gentlemen, for by them you shall be known.

———Gossip must consider the omission our printer's rather than our own.

———Stereoscopes are at last coming into vogue with us, we are actually getting up a taste for them, this may be somewhat owing to the price; since they can be bought for $1 50 per dozen, it were strange indeed if many parlors were without them, what is better adapted to engage the attention of a visitor whilst temporarily delayed, waiting for the appearance of the lady of the house? What a better interlude during an evening party than to fill up a pause with a glance at a fine Stereoscopic view? Certainly nothing better displays the beauties and marvels of the Photographic Art. No artist can fail in perspective. *The* failing of the "old masters"—if he studies the Storeoscopic productions of the camera, and no architect in outline, angle and lightness of design. It is mathematics demonstrated, and geometry an abiding proof.

It is a good sign that the taste has commenced in the right direction—Landscapes, Architecture and Composition.

Our subscribers will please excuse any deficiency in this number, or want of punctuality. Serious sickness in the family of the Editor having called him out of town. This excuse must also apply to the last number.

THE AMERICAN
Journal of Photography.
[NEW SERIES.]

Vol. 1.] AUGUST 15, 1858. [No. 6.

NITRATE OF SILVER.

Jersey City, July 27, 1858.

Mr. C. A. Seely—Dear Sir,—It seems to me that your observations on the nitrate bath, as published in the last two numbers of the Journal, do not go quite far enough ; you do not inform photographers how or where to obtain *good nitrate of silver*. Simple as it may seem to dealers in photographic chemicals, it is not so to the *practical photographer* ; he is, in most cases, not a chemist and purchases the article according to its label, in the same way as he purchases other things ; makes up the bath as you direct, when to his great vexation, he experiences but poor results where he reasonably expected fine pictures : the collodion is blamed, then the developer, the water, every cause of failure is suspected but the right one. The nitrate bath is subjected to the usual tests of litmus paper, and the hydrometer ; it appears all right, the instrument indicating 35, 40 or 45 grs. to the ounce, and the color of the test paper is good. In this extremity he calls on his neighbour Mr. A., whose bath works well ; they compare notes, and it is found that the two establishments agree perfectly, but this only adds to the mystery ; he makes a picture with the suspected collodion in Mr. A.'s bath, and is astonished at the perfect result, he now concludes that something is wrong in his bath, and " bottles it up," makes another with Mr. A.'s nitrate, and finds it to work well, and he is forced to conclude that his " nitrate is not good," but he cannot tell *why*, as they both purchase of the same *furnishing house*, and both have been told it was the " best nitrate."

The difficulty is that the " furnishing house" gets nitrate of different makers, and at different prices, often buying the cheapest to be had, and dealing it out for a good article when in truth they do not know a good article from a bad one. Let the nitrate be tested and in it will be found other nitrates than silver, as zinc, potash, lead, &c., which make up the *weight*, but detract from the photographic properties of the solution.

If you will direct the consumers how to make their own nitrate of silver, or where to get it of the right quality ready made, you will more than remunerate them for a permanent subscription to the journal.*

The following is a fair estimate of the cost of manufacturing pure nitrate of silver :

One hundred and seventy ounces of pure nitrate of silver are composed as follows :

Silver, - - - - - -	108	oz
Oxygen, - - - - -	8	"
Nitric acid, - - -	54	"
	170	oz.

The cost of	
108 oz. silver at $1 40, - - -	$151 20
Nitric acid, - - - - -	2 00
Labor, rent, &c., - - - - -	10 00
170 Bottles, corks, and labels, - -	10 00
Weighing, sealing, &c., - - -	4 00
Cost of 170 ounces of nitrate of silver,	$177 20

or at about the rate of $1 04 per oz., while it can be bought at retail at about $1 05 per oz. at the furnishing stores.

I suppose they all sneak behind the great bugbear of competition, and claim that one must sell a cheap article because the other does, but it is poor policy in any dealer. If any one of the furnishing houses will *keep only a pure article*, and charge accordingly, that house will have the trade within a short time. Very truly yours,

JOSEPH DIXON.

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* We believe that any one who is not well skilled in chemical operations, will find it unprofitable to undertake the manufacture of nitrate of silver. As to "where to get it" &c, "modesty forbids" &c. Mr. Dixon's experience does not extend to all furnishing houses.—ED.

WOODWARD'S SOLAR CAMERA.

BY THE EDITOR.

Woodward's Solar Camera has enjoyed a high reputation and is often considered a new and very ingenious contrivance, and the only one suitably adapted to its purpose. Many continue to use it with the highest approbation. One of our photographic journals has made it a special object of praise for the past year. The only objection commonly appreciated is the price which the patentee has seen fit to charge.

Yet, per contra, this Journal has never approved the Solar Camera. The Editor as well as correspondents, have on several occasions, expressed a decidedly unfavorable opinion. I have many times demonstrated the fallacy of its construction, and even to the editor who has been so full of praise. The readers of the last volume of this Journal, and those with whom I have spoken on the subject are not likely to have been deceived. Chiefly for the benefit of our new subscribers, I have thought it worth while to present the matter again, and in a clearer light.

The essential peculiarity claimed for the solar camera is a condensing lens, by which the negative being more highly illuminated, an impression is made in a shorter time. Let it be understood that no other advantage over other contrivances of working, is claimed for it.

Now admitting the claim, it is of very little value, when, by other simpler contrivances, any work required of such an instrument can be done within the space of one minute. One second is amply sufficient for a picture 22 × 17 inches, by the megascopic camera. How little then is the advantage of the solar camera, admitting that it can shorten the time even one half?

But I am prepared to make the admission only momentarily. I proceed to show that the solar camera requires more time of exposure than other instruments.

The largest condensing lens sold with the solar camera is 9 inches in diameter. Its available aperture, on account of its mounting, is somewhat less. Of course no more light than falls on its surface can be used. It will readily be seen that the light passing through it cannot cover a 4-4 plate, even if the light were not at all condensed. (A 4-4 plate measures, diagonally, 10 inches). But the light is condensed, and although the instrument is called whole size, it is only intended for the half-size plate. Other instruments permit us to use 4-4 plates, and consequently more light. Any artist of experience will prefer to use 4-4 plates if he has a camera to make them. Very few smaller negatives are made ; it is the size convenient to handle, and with which we are all familiar. Moreover, much of the light which falls on the condensing lens is dissipated by reflection, and from that which passes through much chemical power is absorbed by the green glass. It is only necessary to add that the actual trial of instruments has confirmed the above reasoning. The work which the solar camera does, can be performed by other instruments in a time shorter by about twenty-five per cent.

It is often supposed that the solar camera can make a sharp picture. I proceed to show the error of such a supposition.

We have a perfectly sharp image on a plane surface, when all the rays from each point in the object are brought to a conjugate focus on the plane. It is generally known that if a negative be illuminated by diffused transmitted light, a very sharp image can be made by a good tube. Now what should be the effect if illuminated by the direct converging rays from a condensing lens ? The sun is an object to the condensing lens and its image is formed, diffused with and overlying the image of the negative, distorting and obscuring it.. This distortion and obscuration will also be increased by the necessarily imperfect form of the lens, and the fact that it is not achromatic. These statements can be easily verified by any one who has a solar camera. Observe that the sun's rays do form an image at a point near the front lens from which they diverge. Slide in a negative and you will find a considerable range of distance of the screen in which you can distinguish no difference of sharpness. Finally remove the condensing lens, substituting a ground glass, and you will find that you will have a sharp image when the screen is properly adjusted. You will have no uncertainty now about the position of the screen.

It must be remembered that a condensing lens collects heat as well as light. With a lens of nine inches diameter refractory metals may be melted, and ordinary combustibles readily ignited. Who has not heard of solar camera boxes being set on fire and other damage done? Who would long trust a valuable camera tube in such a heat? Accidents from fire may be prevented, but the injury to the tube is certain.

The validity of the Woodward patent I consider of little moment, Whoever originated the invention (and there are many claimants), deserved no credit for his knowledge of optics. The arguments of this paper will soon be generally understood, and better instruments will take the place of the solar camera, which will be laid on the shelf with the magic buffs, Hillotypes and Hallotypes.

[*See note on page* 90.]

EN ROUTE.

Mr Editor,—I'm like you New Yorkers on the first of May. I'm on the move, though what has moved me to move, I can't exactly say. Perhaps the spirit prompts me, though not alcoholic, unless with a desire of using it combined with ether, but where I am going, I either don't know or can't tell. The fact is I'm ill in Illinois, by which token I can't make much noise, this time at least, not that I think my pop gun makes a cannon's roar, or my pen-whisperings sound like thunder

There is no doubt I have a slight touch of melancholy, and thinking I felt poetical, I tried to awaken my muse, but she was asleep, and could not amuse you, which set me musing, and made me musical, so here's for a sound on my own trumpet. For I was asked the other day who's that Gossip, "Gossip the Hermit."

Gossip, my dear sir. is a celebrated observer, censor and photographic critic. He is supposed to smell a quack a league off, and see humbug written on the forehead of a "process peddler," he is decidedly severe, and considered just. He is engaged by the proprietors of the American Journal of Photography, at a yearly salary of ten thousand dollars, payable when he can get it, (I named this sum it being the exact amount offered annually for talent by a cotemporary of yours no doubt able to double it of *vast* influence; who is best known by the practice of informing some imaginary correspondent that "the book is not worth the money." A piece of information suggestive of a vast fund of knowledge, and strictness of honesty of opinion.) My querist *thought* I was humbugging him, whereat I differed with him, *knowing* the fact.

Now tell, is the Lover of Cleopatra the sole agent for the solar, and is the WOOD WORTH the price charged? People do say, the great Roman had been reading "Marmion," and stuck at "*charge*, Chester, *charge.*"

Can you inform a rustic, and no donbt others unused to the ways of "Gotham," what the "Orthoscopic" Camera is, that Voightlander and Petzval—jaw-breaking, but scientific,—are fighting a printer's ink duel about Also if the Niello-graph is named after "Nelly Grey," the pretty young damsel who used to take daguerreotypes "down East."

I notice in one of your English journals, the case of a party who had made a contract with a wealthy firm, which firm could remember nothing about it when finished, and wanted the evidence, but the knowing contractor not wishing to risk the only evidence he had, caused the agreement to be photographed, and sent them an impression, which made such an impression on the contractees that they paid up without further trouble Now I think the photographic art should be more generally used for such purposes. There are many documents of vast value as evidence, photographs of which, would answer all purposes of identification, until the real documents were actually required in a court of law; indeed photograph of wills and other such valuables might be admitted as evidence in case of loss or destruction of the original, provided the characteristics of photography were retained, and no attempt was made to counterfeit the original so that it might pass for it. Photography might be used much more extensively than at present, many small towns furnish inventors and patentees, that are too small to support a draughtsman, able to take accurate drawings, and even if they are able, there is no mistake about a photograph, no exaggeration of beauty, or additions of ornament, it is perfect evidence of the real thing. Again, how useful in sending dresses and patterns of rich laces, shawls &c. The importer or manufacturer cannot afford to send a piece of lace or a rich shawl to each of his-likely-to-be-customers, but he might furnish a photograph if the artists would only make a business arrangement with him; but unfortunately, whilst they are apt to undervalue the art, by taking single portraits below paying prices, they seldom offer facilities to the business man, to issue designs of his wares. In limited quantities photographs can be furnished cheaper than lithographs, or even wood-cuts, to say nothing of the time required to cut the block or draw on the stone ; some things are only of value when done without delay, and photography need have the least delay of any branch of the art of "counterfeit presentment." Nor let any artist say he may have to wait for a fine day, or he can't print without the sun. Let him make photography a commercial art for the purposes I have suggested, and ways can be found for concentrating the light—any but a foggy day—indeed, Gossip himself fancies he knows some one who could furnish the *desideratum.*

I must avail myself of contributing a sentence of satisfaction at the success of the Atlantic Telegraph Cable. We—You and I etc., Mr. Editor, are amongst those who treat our art as a scientific one, and must therefore rejoice at the last and greatest triumph of Science. Photography in its time has been *the* dominant wonder, nor has its wonders ceased. It still keeps pace with its twin sister Electricity, it still is developing its capacity, it still is contributing to things useful as well as wonderful and ornamental for mankind, and though most of us more than once thought the Telegraph Squadron was an awkward squad, yet there are few but manfully acknowledge the greatness of the success, and rejoice at the triumph of the courage and perseverance of its undertakers. They are undertakers, whose undertaking we are proud of ; they have buried their progeny in the deep ocean, that from its metallic nerves may spring thought, the life of intellect, and we hope the song of its resurrection may never be sung

That the Cable may prove the band of friendship between the two great pioneer nations of human freedom, and be a halter around the neck of tyrants, and that it will always be getting the Despots of the earth "into a line" in their doubts of the meanings of its oceanic whisperings, is the wish of

GOSSIP.

[*Third Article.*]

ON THE METHOD OF ENLARGING PHOTOGRAPHIC AND OTHER PICTURES.

BY P. C. VANDERWEYDE, M.D.

It may be useful to say a few words more about the right arrangement of lenses for the solar microscope ; for to obtain an equally illuminated field, the small image of the sun produced by the first large single or double lens, in its focus, should be taken up by the small lens or lenses, and thrown enlarged on the white receiving surface ; it should be equally illuminated and with sharp defined edges ; in the upright image of the sun's disc, the image of the object should appear, and to obtain this, the apparatus should be so arranged that it is possible to move the object between the lenses forward and backward, without disturbing the lenses themselves from their relative position.

Only that part of the object falling within the limits of the first small image of the sun's disc, will be sufficiently illuminated to be much enlarged without losing sharpness. —It is clear from this, that if the object is larger than we can conveniently make the inverted image of the sun, it is better to omit the first lens altogether.

Let me, by the way, investigate how large the object may be to be entirely covered by the sun's image in the focus of the first lens ; we all know that the size of an image can be increased by using lenses of longer focus, and that the linear increase is directly proportionate to the increase in focal distance of the lens. But what focal distance must a lens have to give an image of the sun, for instance one inch in diameter? The first elements of geometry teach that if the size of a distant object is seen under an angle of for instance 1-2 degree like the sun, the size of the image in the focus of a lens will be equal to the sine of 1-2 degree or more correctly to the double sine of 1-4 degree ; now for a lens of 12 inches focus, the sine of 15 minutes is equal to 0.05 inch and its double very near 0.11 inch, and for 9 feet focus, 9 × 0.11 = 0.99 or very near one inch ; so we see that it is entirely impracticable to increase the focal length of the lenses to obtain an image of the sun large enough to illuminate objects like common photographic negatives ; a combination of two lenses, however, may be made so that the second smaller lens placed behind the focus of the first, takes up the inverted small image and forms a second upright and enlarged image in which now the object may be placed.*

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* An image from a *perfect lens* can be sharp and free from distortion only when the rays which are to form it *emanate* from the object. Rays transmitted through the object, and starting from a distance behind it, will not answer the purpose ; even if they are parallel, or emanate from a mathematical point. The use of a condensing lens as recommended in the text, although without doubt as perfect an arrangement as possible of a condensing lens, effects its purpose only partially. The contrivance used in the megascopic camera appears to us the nearest approximation to perfection, and is applicable to all similar instruments.—[Ed.

Charles Chevalier in Paris, has already, 20 years ago, made sun microscopes with this arrangement ; his intention however, was not to take advantage of the property of the second lens to form a second large image of the first, but as appeared to me to get rid of the caloric rays. I examined, about the year 1841, very carefully, and experimented extensively with one of his microscopes of the above mentioned kind, and found there two lenses, each achromatic, but undercorrected, that is, the luminous rays of different color were well enough brought together to make a pure colorless image of the sun, but the image formed by the caloric rays (the extreme red is the least refrangible), was somewhat further from the first lens than the normal focus The second lens could be so adjusted that if a second image was made of the first luminous image, this second image possessed a temperature little above the simple sun's rays, as the caloric rays were almost made parallel by this second lens ; this is for the sun microscope a great advantage, as the delicate objects are so easily burned in the focus of the first lens ; if now, however, the second lens was removed a little farther from the first, to take up the caloric image, and the object also was placed a little farther than the luminous image formed by the second lens, (in its caloric image) everything was soon burned up.

Another peculiarity of Chevalier's microscopes is, that there may be added a large achromatic concave lens at a little distance behind the small lens, between it and the screen ; this enlarges the size of the image greatly, without making it necessary to increase the distance of the screen, which is very convenient if the experimenter operates in a room too short to make large images in the usual way ; it is the same combination as *Kepler* used for a camera (see page 66 this volume) and in principle an opera glass with a large concave lens ; this combination has been used by others, but was lately almost forgotten till Petzval and Voigtlander recalled it to the scientific world, by their general quarrel about it. Petzval's merits about it are : not its invention, but having this combination brought to its utmost achromatic perfection, by mathematical calculations, a feat which very few of the greatest mathematicians may attempt.

I mention these facts because I think it useful to bring such matters just now under the eye of the experimenting opticians and photographers ; a great deal of time could be spared by many, if they before commencing experimenting on any subject, carefully investigate what others had done in the same matter ; they may do something to the progress of the science in starting from the point where others left it, but if in the place of this they repeat and often very imperfectly) what long ago by others, was done (often in the most perfect style) the result cannot be but imaginary inventions, the inventor being unconscious that the thing is old ; and he feels happy till he knows that he has walked in an old track, often he will not be persuaded, it is so hard to give up an agreeable illusion, but in the end he has to do it.

If we knew what large amount of time, labor and money are thrown away in this manner, it would startle us ; in the same time this consideration proves clearly that it is very wrong to make secrets of the discoveries we make ; we may suppose them to be of some little advantage to ourselves, but we injure society ; I want only to remember that if Daguerre's invention had not been given to the world by the liberality of the French Government, photography would not be what it is now ; but I must not say more about the last subject, I should walk in a very old track myself.

I never found much difference in the sharpness of images formed from transparent or opaque objects, provided the transparent objects were only equally illuminated ; we have seen that to obtain this one lens is not sufficient, and it is perhaps best to leave it off altogether ; in copying transparent stereoscopic views with my son last year, I found that it was best to leave the ground glass behind them, or, to place one there if it was not there already, and so I obtained very fine specimens ; both pictures being copied at once, natural size, with a camera arranged so as to contain the whole glass slide or two daguerreotype plates. I am willing to leave at the editor's place of business samples as well as negatives and positives, copied from transparents, and as sharp as anything that exists.

Page 140 of the last year is spoken of : " *a blurred image colored on each side by fringes, in the same manner, and those mixing with the fringes of the circle, give rise to that indistinctness which may be seen in all images thrown on a screen by the solar microscope. Every device that mathematics could suggest has proved ineffectual in correcting this species of imperfection.*" In reply to this I must simply declare that a good solar microscope used by skillful hands, does not show such indistinctness but gives perfect satisfaction to the observer, every outline being sufficiently sharp.

In conclusion I will remark that my collossal* magic lantern and megascope mentioned in the former article, has been described by me with the necessary drawings in some scientific journal in Europe, in 1840 ; I will try to hunt up this description, and if successful will give a translation of it ; it was only used for experiments at lectures on optics and never used for photography, the last art being at thst time in its infancy, but which worked equally well for all kinds of objects, opaque, transparent, large, small, &c , only by the arrangement of suitable lenses. I may be induced, if time permits me, to have one made of the same kind for photographic purposes ; this will be a *universal camera.*

NEW APPARATUS AND UNION CASES.— A NEW STYLE OF HEAD REST.

BY H. GARBANATI.

A rest for the head is one of the necessities of photographic portraiture

Many artists fix the head of their sitters *firmly*, a great error, as pressure against a nerve will cause a person to vibrate unconsciously or at least cause him to look as stiff as a maypole, The object of a rest is simply to *remind* the sitter, that the head is to remain in a certain position, the least touch with an intelligent person is sufficient to allow of ease and grace.

The ordinary " iron independent head rest," is admirably adapted for permanent galleries there being nothing left to desire to suit all heights and positions, yet it will not suit all purposes. In arranging groups the broad bases occupy too much room, and also occupy too much time in adapting to the space convenient, when some of the group have to stand, it is exceedingly difficult to find room for their feet between the bases of the head rests of the sitters.

The reader will please excuse the printer's mistake in the former No., page 67, using *colupal* for *collossal*, and page 69, *prevent collodion* for *purest collodion.*

The greatest difficulty, however, is with the travelling artists—and their name is legion—it is no joke to carry some twenty or more pounds of iron from town to town, to say nothing of the risk of packing that amount of metal among bottles.

There is a head rest in vogue adapted to the backs of chairs, but it is both heavy and inconvenient. The last style introduced, the self-adjusting head rest of Seely & Garbanati, has the advantage of being light and easily adapted. A piece of cast iron is adapted to the shape of the average run of parlor chairs, and hooked on by two springs ; through the center of the iron work is passed a bar of wood, which contains the part for supporting the head, this bar acts as a lever, of which the iron work, with the springs is the fulcrum, and the lower part of the bar resting against the lower rail or seat of the chair, is the counterpoise. When the rest has to be elevated or depressed, the iron work is to be slightly raised when the lower part of the bar is detached from its pressure against the chair. The bar can then be readily raised up or down, and is again held fast by the letting go of the iron work ; the whole of it weighs but 1 1-2 lbs., and costs one dollar and a half.

An Improvement in the "Bellows Box."—Mr. E. Gordon, of New York, has arranged that the bellows when not in use, shall pass into, and be protected by the woodwork. This is a great improvement, as the points of the bellows are liable to be worn off, and thus not only look shabby, but let in the light.

Mr Gordon has also an excellent improvement for a "turn" shield, *i. e.* for allowing pictures to be taken upright or landscape. An average is made of the various sized plates, and a double corner, made of a material peculiar to the maker, is fitted in, so that the lower spaces shall take the landscape pictures, and the upper ones the upright, by this arrangement, the camera box need not be made larger for "turn" shields.

Union Cases.—It is now some seven years since the Union Case was introduced to the daguerreotype profession, one of the first and best patterns being a sixth size with two pretty jolly-faced little girls; afterwards, very many patterns were introduced, varying from senselessly ugly to neatness of design, some as slightly embossed as if the material were of gold, and the maker were afraid of wasting it, others so bold as if intended for distant observations, or bases of columns. After some flourishes of prettiness of design came the literary period, with sharp-featured Sir Roger De Coverly, a libel on Addison's hero, The appointment, some family and domestic scenes, &c., good and bad, interspersed with the short lived mania for chequered patterns, which the makers would persist in sending, and people in not liking. After which were issued some really choice and elegant designs,—a credit to the purpose for which they were used. Now, we have the historical period. The history of the United States is being impressed on the rising generation, and is furbishing up the memories of sober citizens, from the covers of daguerreotype cases. We have Marion sharing his mess of sweet potatoes with a British officer, The Capture of Major Andre, Washington Crossing the Delaware on a whole size case, &c The material is admirably adapted for the purpose, and let us hope the manufacturers will persevere, only asking them to have purity of design, and no exaggeration of nature.

AN INSTANTANEOUS PROCESS.

BY THE EDITOR.

For ordinary photographic works no more sensitive preparations than those commonly employed are needed. Most persons who sit for a portrait can keep still ten or twenty seconds. Photographic effects are more under our control, and otherwise more satisfactory, when the time of exposure is easily counted

Yet every photographer at some time feels the want of a more rapid and certain process than any now in use. For moving objects, as in a sea or cloud view, the common methods do not answer well ; and especially for making portraits of children or nervous persons do we want to make an impression instantaneously.

Collodion prepared with iodide of iron, has been found to be the most sensitive of all photographic preparations. Such collodion, however, has not come into general use from the fact that the bath, after the dipping of two or three plates becomes unfit for use ; the collodion also deteriorates more rapidly than any other. If these objections to the use of iodide of iron can be removed or obviated, it should soon come into favor. The following plan I consider a fair solution of the problem:

The derangement of the bath cannot be prevented; but if its good qualities can be immediately restored after the derangement, our purpose is effected. For such a method of recovering the bath see page 6; in this case the remedy of exposure to light is peculiarly prompt.—The rectifying the bath may not require more than ten minutes, when it is again fit for use. It would be advisable in many cases to have two or even three bath solutions, so that while one is being restored another will be in working condition. To lessen the expense the bath holder may be very narrow so as to cover the plate with a small quantity of solution. As to the collodion, I would recommend, that a stock of plain collodion should be kept on hand well settled, and that only a small quantity be sensitized at the same time.

LETTER FROM HAVANA.

Havana, June 28th, 1858.

Mr. Seely—Dear Sir,—Inclosed please find receipt of a *Mestreotype* portrait which I have forwarded to your address, per Express, in order that you may examine a new system invented by me, which consists in changing the shade of the plate on which the Ambrotype portrait is made, the color of a *sky* white, or sometimes pure white paint, used, beingvery unfavourable for likeness of persons of dark complexions and light coloured dresses, making them appear still darker than they really are besides being apt to become stained from the cyanide of potassium used in its preparation.

Dresses with light colors not only favor portraits, but the color never changes, and particularly when the person taken is of a dark color, and that is generally the case with the inhabitants of our island where also many light colored dresses are used, the transparency of this description of plate invented by me produces the most beautiful effect.

Our Government last April conceded to me the Royal Patent for this Island of Cuba, and I am happy to say that it already enjoys the preference.

As I believe you to be a patron of fine arts, I have taken the liberty of addressing myself to you, trusting you will find time to examine the picture, and describe it in your paper as something new.

I take advantage of this opportunity of placing my services at your disposition and remain a subscriber to your paper and Your most obedient servant,

ESTEVAN MESTRE AULET.

[The portrait sent with the above is a very fine specimen of Ambrotype ; Sr. Aulet is evidently an accomplished photographer. The novelty is a method of obtaining a uniformly tinted background. The figure only is blackened and the whole backed up with *colored glass.* Ambrotypes in a similar style are well known here—tinted paper being used instead of glass. The glass has decidedly a better effect. Our artists will do well to try it.]—ED.

EDITORIAL MISCELLANY.

——— Whatever the merits or value of the Cutting & Bradford patent, photolithography has been proved an useful art. Photolithographs are now made of a quality and price, that fit them for the demands of commerce; independent of the photographic accuracy, these pictures are worthy of great praise. The process seems at present best adapted for subjects which do not require fine gradations of light and shade; a photograph portrait is far superior to the photolithograph. But for all other purposes where accuracy of drawing is required, the process is admirable and practicable.

Mr. A. Turner, formerly of this city, is now associated with the patentees, and will contribute his well known energy and talent to the perfection of the art; in his hands its utmost capacity, as far as photography is concerned will be revealed. We are assured that the Boston process differs in important respects from that of Mr. Dixon described page 24. We do not hesitate to confess that we have not been able to produce anything comparable to the Boston work. We shall return to the subject when we are better prepared to do all parties justice. In the meantime we invite examination of a fine collection of pictures kindly sent us from Boston.

——— Mr. E. W. Knight of Glenn's Falls, writes us as follows :

" About one year ago you presented me with an ounce of gun cotton—it accidentally got saturated with acetic acid, and remained in that state wrapped in paper lying on a shelf for some weeks. I then washed out the acid, put the cotton in a bottle into which I dropped a few drops of ether and alcohol. The same gun cotton now makes excellent collodion.

"If you find anything in the above new, and worth mentioning, please do so in the American Journal of Photography."

We presume the properties of the cotton were not at all changed by the acetic acid. The case is worthy of careful examination.

——Our brother Snelling of "The Photographic and Fine Art Journal" after a friendly and complimentary notice of our new series, adds :

"The number before us (June 1st), contains several original articles of interest. We copy one in our present issue, although we doubt the propriety of publishing matter in advance which is intended to make part of the report of a committee investigation. As it has been published, however, we consider it no impropriety to copy it, but we must protest against this principle of taking advantage of position to forestall cotemporaries. It is not fair ; yet we exhonerate friend Seely from intentional wrong, as he is yet young in the publication business."

The article copied from our journal is the letter of Prof. Draper to the committee of the American Institute We share that doubt about propriety ; but we plead not guilty to the injurious insinuation contained in the above. The letter was read at a public meeting, discussed, and permission given for wider publication, when we suggested that our journal was the most suitable medium for communication with the parties concerned. As a member of the committee we were opposed to the immediate publication.

We confess to having forestalled cotemporaries, on many similar occasions, and we take pains to be in a position to do so. If this is only a trait of youth, we do not desire to grow old in the publication business We have changed no sentiment concerning enterprise since we commenced the first of the six volumes now published. Where is the unfairness in an ambition to be superior to our neighbors, and in honorable competition? We say to Mr. Snelling, with emphasis, that we do not desire or intend that he shall publish a better journal than we, in regard to matters where there can be competition ; he shall not forestall us unless he drugs us and takes us asleep. Yet all the time, as in the past, we shall be proud to hail him as brother and friend.

——Died on the 29th ult., Clarissa E. Seely, wife of the Editor of this Journal.

What a precious treasure does the photograph become by such an event ?

THE AMERICAN

Journal of Photography.

[NEW SERIES.]

[No. 7. SEPTEMBER 1, 1858. Vol. 1.]

WHO MADE THE FIRST COLLODION PICTURE?

New York, August 26th, 1858.

Dr. J. Milton Sanders—Dear Sir,—In your American edition of Gregory's Chemistry, on page 59 I find the following: "The first collodion picture that we have any account of, was taken at Cincinnati, in 1847, by Mr. E. C. Hawkins, assisted by the writer. If others were taken previous to that time, we have no knowledge of it." This is the first intimation to myself that the origin of the present beautiful methods of the photographic art may be claimed for America. Is it not justice to Mr. Hawkins and yourself, that the facts regarding that early experiment should be known by the photographic public?

Will you have the goodness to furnish for publication in the American Journal of Photography a history of the picture alluded to, with as much detail as convenient.

I am with great respect,

Yours truly,

J. Milton Sanders, M.D., L.L.D. Charls A. Seeely.

New York, August 27th, 1858.

Mr. Charles A. Seely—Dear Sir,—Your letter of the 26th inst. is received, in which you request a detailed account of the discovery of collodion as an article for pictures mentioned in my edition of Gregory's Chemistry.

After a lapse of eleven years, it cannot be expected that the mind could retain all the details you desire; still I remember the principal incidents connected with the discovery. They may interest you, and perhaps substantiate the fact, that the first collodion picture was taken in this country. It was while in a conversation in the Summer of 1847, with Mr. E. C. Hawkins of Cincinnati that the first idea of using collodion was suggested. Mr. Hawkins had been experimenting upon paper pictures, (the colotype I believe) but could not get paper fine and thin enough for the purpose. He remarked that if a paper could be got sufficiently fine and thin, that paper negatives could be made which would print positives that would rival the finest engravings. I had that day, in Dr. Kent's drug store, been experimenting upon the preparation of collodion for medicinal purposes, and this previous occupation suggested collodion to my mind. Collodion after all, I thought, was nothing else than paper held in solution, and I suggested its use. Glass was then naturally suggested for the purpose of retaining the paper, and Mr. Hawkins, with his characteristic zeal and perseverance, commenced his work. If I am not mistaken, Prof. Joseph Locke assisted him in the preparation of the first picture. Their surprise was great when besides a negative picture, as they anticipated, they got a positive one, which was painted upon the back with black paint, and mounted. That picture still exists, or did a short time ago, and even in these days of beautiful ambrotypes, is a pretty picture. I would here state that I do not claim any of the credit of producing the first collodion picture, but to Ezekiel C. Hawkins of Cincinati, belongs the credit of having made the first picture upon collodion. In a future communication, either by Mr. Hawkins (if I can prevail upon him to forego his usual modesty,) or by myself, you will get more details upon this interesting subject.

Respectfully,

J. Milton Sanders.

NEGATIVES OF VALUABLE DOCUMENTS.

BY H. GARBANATI.

I have before called attention to the uses of photography, other than for the purposes of portraits and views. The microscopic uses of the photograph have merely been hinted at, never tried more than as interesting experiments.

The recent burning of the City Hall, though no great loss has been sustained in documents, shows the liability to greater damage ; the destruction of the capitol at Washington with its valuable archives, the destruction of very many other public buildings with their unrecoverable treasures prove the necessity of duplicate documents being deposited in other places. Yet the expense and bulk, and the liability of their being used for improper purposes, have hitherto prevented the attainment of this necessity, and the world has been the loser.

The archives of a nation are its history, and its history is the chain of events that cement the ineffaceable memories of our ancestors, through the links forged by each succeeding generation, with the unexisting presence of posterity. Without its authenticated records, the history of a nation is a blank, a mere unsubstantiated train of legends, its interest is attenuated, its story tame. The power of the past strengthens the present and gives hope to the future.

Photography gives the means of perpetuating history, though its written or printed records be lost. It is capable of giving in perfect detail, a whole volume on a quarter size plate, the half the size of a man's hand ; and whilst such is its power, it seems a reproach that we should fail to avail ourselves of it. It ought to be, and perhaps will be, a part of our government arrangement to have the microscopic photographer commit to the collodionized plates, negatives of all public documents that contain the records of the country, or the connecting links of its history. There will be no need in so doing to perpetuate the blood and thunder Buncombe speeches of some of our representatives, the man would be worthy a Premium who could invent an obliteratex, but there are records, not only of inventions and improvements but of mind directing wisdom, the destruction of which would be of incalculable loss to the world. The destruction has been before, and may be again ; there are public and private buildings that contain documents without counterpart, the destruction of which by any contingent fire or other means, could be a source of boundless trouble to those interested. Let us imagine the number of wills, or worse—because more are generally interested—of mortgages liable to be destroyed, which are themselves the only evidence of their authenticity, which would cause boundless litigation, or hold property in abeyance forever, for want of proper authority for its distribution. A microscopic negative of which, carefully stowed away, with the agency of the megascopic camera, would give a document as reliable as the original, by which the vexed question of the right of property might be fixed. And yet hundreds of thousands of such negatives might be put away in suitable boxes, in a fire proof vault underground, to be resuscitated upon the loss of the objects from which they were taken, or destroyed upon the settlement of the questions at issue. This is an important view of one of the uses of photography, and I trust the press will agitate it until it is the custom to make microscopic negatives of all valuable public documents, and of documents connected with important cases of law.

[*Fourth and last Article.*]

ON THE METHOD OF ENLARGING PHOTOGRAPHIC AND OTHER PICTURES.

BY P. H. VANDERWEYDE, M.D.

Mr. Seely—Dear Sir,—Your note on page 90 places me under the necessity of giving a few additional explanations to my article. You are perfectly right in saying "an image from a perfect lens can be sharp and free from distortion, only when the rays which are to form it emanate from the object. Rays transmitted through the object, and starting from a distance behind it will not answer the purpose ; even if they are parallel, or emanate from a mathematical point." Now the fact is that in the arrangement I propose the rays do *not start* from a distance behind it, that they are *not parallel*, and that they do *not emanate* from a mathematical point. I see that I have not explained the subject sufficiently, and will do so now.

It is known that many of the solar microscopes do not give a field equally illuminated; in the centre is usually the strongest light, gradually diminishing towards the circumference, and it was with an agreeable surprise that by a public exhibition of a solar microscope in France several years ago, I saw a circular field of some 10 or 12 feet diameter equally illuminated to the very edges. The exhibitor made a secret of his arrangement, but it put me to experimenting, till I found the very same ; and this was as I have said, (pages 89 and 90) by having the second enlarged image of the sun itself thrown on the screen ; now this second image is of course formed by the light emanating from the first ; this first one may be viewed on transparent paper or ground glass or in the air, just as experience teaches best for each particular case ; now it is clear that if the object itself is placed in the sun's image, the enlarged image of the object will exactly be thrown on the screen in the sun's enlarged second image ; it cannot be said now that the light passes parallel or from a point conical through the object, it does in reality emanate from the sun's first image, that is from the same place as where the object is placed, and what is more the rays will proceed in exactly the same direction.

This now, I apply, to the illumination of photographic negatives, and produce with two lenses an enlarged second image of the sun, just as large as the negative to be copied ; place the negative equally in this image, the camera lens now throws both, the image of the sun received on ground glass, collodion or what you like, together with your negative, both in the same focus on the sensitive paper.

The beginning of said note, however fully true of opaque objects is only partially so of transparent ones ; how will you make all the rays to emanate from the transparent negative, and obstruct those passing through ; it cannot be done ; and now I say that my arrangement to bring an image of the sun of the same size as the negative exactly in its collodion film, or on a ground glass just in front of it, will make the rays better emanate from this object, than by any other arrangement possible.

But if we consider the intensity of the light obtained in this way, so can we gain nothing by those illuminating lenses, if the first one is not larger than the negative to be illuminated ; so we must come to this conclusion : If the negative to be copied is larger than the illuminating lens which receives the sun's rays first, it is better to omit the lenses altogether, and to bring the direct sun's rays by means of a mirror perpendicular on the negative, however protected by a ground glass, which most of the time will be found necessary.

A LETTER FROM MONMOUTH.

Monmouth, August 27th, 1858.

You ask me what is the average quality of pictures taken in the small towns and villages. As far as chemical effects are concerned, very good indeed. I know of many country operators who produce much finer pictures than the majority of those exhibited along Broadway. But then as a rule I must stop with chemical effects. Positions, generally, are horrible, the knowledge of the art merely mechanical.

This originates no doubt from the fact that most engaged in the business merely adopted it as a means of getting a living; very few indeed have any artistic conceptions. The want of especial education, and also of association with artists—from the fact that *they* always flock to the cities—easily account for want of artistic arrangement, so necessary to the value of a picture. A picture may be worth a dollar as a likeness, but as a work of art, the value is fancy. Gurney's pictures, for example, readily fetch much higher prices than some in his immediate neighbourhood, equal in chemical effect.

I have often been going to urge you to engage artists to write for your Journal, on position, ease, grace, &c., but have been deterred, from the fact that those who would be most benefitted eschew books. It was only the other day, I was pressing a group of country operators, to take in your Journal, urging that any work devoted to a certain occupation, if intelligently written must be worth a small sum per annum, for the information it contains; no man is perfect, no philosopher but can learn, though he live forever. A single hint might be worth a year's subscription, &c. "But," said one, "the business is too cheap already. I merely work for a living. I take no interest in it as an art," and how many like him, how many in their need for gain are not shrewd enough to know that a little money judiciously expended will economize time, labor, and money. This man could not see that the ideas of others might enable him to produce his work even cheaper, by economizing his time and material. Are our photographers afraid of books? Is learning a bugbear? A bogey capable of scaring them, or are they the most self satisfied body of men able to get their own living?

Whilst on the subject of artistic arrangements, I wish to call the attention of some of our artistic photographers to an untrodden field for their operations. A subject replete with interest to those anxious to view the wonders of nature. I mean the use of calcium or other artificial light in depicting views of objects hitherto deemed too dark for the powers of the camera. Once my ramblings carried me to the Mammoth

Cave of Kentucky, and curiosity with me as with others, led to scrambling through its mazes and channels to see the vitrified throes and upheavings of laboring nature now quiescent in those antediluvian regions, with the magnificent and awe-inspiring evidences of those convulsions of the earth we trust not to be repeated in our days How I wished for the means of taking camera views of scenes before me, and yet I thought it was quite possible, with instantaneous collodion and the calcium light. What was to prevent the world being gratified with views of those wonderful halls and caves, and buttresses ? Here for nine miles underground, we might give a succession of views that not one in a million will have the opportunity of visiting in nature ; the fine scene of Cascade Hall, with its waterfall under the earth, and the view ending in undefined space along its three mile avenue, would be something the surface of the earth must fail to furnish us with. Then " Serpent Hill " so called from its architectural resemblance to the entwining of serpents on its roof some forty feet high, would make a picture of interest.

Then the numberless views of ever varying stalagmites, gems of grottos, caves, bowers (so called), afterwards the underground " Rocky Mountains," all for the astonishment of untravelled man. But what finer subject for the camera than the Mammoth Dome, an immense hall with architectural devices of smooth and even finish, as if from the patient chisel of man instead of the accidental arrangement of one of Nature's convulsive fits. But why specify, when there are so many objects, artists would readily seize on to depict, if convenient to their hands. Are not the wonders of the Mammote Cave written in the books of travellers and tourists ? Photographers, do some of you take interviews of the Mammoth cave. Your works will be profitable, and many more caves will require your labour.

What a hubbub you Gothamites are making about the Atlantic Cable, and you are quite excusable ; it is indeed a great event. Yet it has not done all it is yet to do. Who knows but we will be enabled to take each others likenesses by means of the electric wire ? Only fancy, sitting in New York, and having some one get your likeness in Liverpool, it would save much trouble with fidgetty persons, we should not have so many rejections. And it's going to be done. For a number of wealthy individuals of the City of Longbow have already pledged themselves to ten thousand dollars each, for shares in the " American Intermolnect Photographic Artist's Society, and intend engaging one of their wires—insulated by oxidation—of the next cable to be laid, of a third of the weight and thickness of the present one. The chief object after taking portraits of distant friends, will be to obtain a portrait of any body who slowly or suddenly leaps into fame, on either side of the big ocean. You see what an immense picture gallery of distinguished individuals we must have in a short time, if all those are to be considered distinguished whom photographers rush so madly after to take. Why, the photographer has founded a new era of greatness!

Gossip.

RECTIFYING THE BATH BY EXPOSURE TO LIGHT.

BY THE EDITOR.

In the first number of the New Series of this Journal I gave what I then supposed a new method of rectifying Nitrate of Silver solutions by exposure to light. In the "Photographic Notes" of Aug. 1st, I find the following:

> "American photographers are in a state of ecstacy about a method of curing foggy nitrate baths by simply exposing them to sunshine, and the question now is, *who* discovered this wonderful dodge? Every one says "I did!" of course. Now *we* must also join in the chorus, for the honour of old England and the *Notes*. At page 116, No. 24, for April 1st, 1857, this wonderful dodge was for the first time published."

Immediately on reading the above I made enquiry of the agent of the "Notes" and others, and was unable to learn that any copies of "Photographic Notes" of a previous date to Dec. 1857, had reached this country. Moreover I have been a constant reader of other English Journals and feel quite confident that the article in the "Notes" was not copied or alluded to in any way. I feel myself justified therefore in infering that the "Notes" discovery was indefinite, or that it was overlooked by other Editors from heedlessness. If the Editor of Notes will have the goodness to send to my address a copy of No. 24 of his journal, the article in question will be republished here, and the credit of a useful suggestion will be given where it belongs.

I believe I have a reasonable ground of complaint in the manner the Editor of "Notes" expresses himself. How has he received the information that "American Photographers are in a state of ecstacy"? Does he imply that American photographers are boastful or exultant on such a matter?

Surely what I have written myself, on pages 6 and 44 was not immodest, and of the two other photographic journals published here only one of them (a publication of mean repute and small circulation) has alluded to my suggestion, characterizing it as worthless or a pilfering from the English. Mr. Sutton's sources of information concerning American photographers are muddy, or he must be a very cold-blooded Englishman indeed to discover any ecstacy in our modest moderation.

I take this occasion, however, to say that there are some things which American photographers do claim, and about which they might boast, when they are in a boasting mood. American photographers honestly believe that skill, ingenuity and science in America have, to a notable extent, advanced the art of photography. Moreover, their claims have been stated specifically—yet not acknowledged or even noticed. It seems strange that Dixon's photo-lithography, Mascher's stereoscopes, and American improvements in apparatus, should be entirely ignored, and a brief hint about foggy baths should be made the occasion of a slur on all of us. Fy! Mr. Sutton! You are decidedly ungenerous.

Now I may say for myself that improvements in the photographic art from any source, always give me pleasure. I have ambition and patriotism enough, however, to desire that improvements may originate with myself or my countrymen. Yet I am sure I shall not lose confidence in anything if it is shown to be only a re-discovery

Finally, (the Editor of "Notes" will not object to my saying it) I consider the cure of impure silver solutions in question, one of the most useful of "practical dodges." I shall continue to recommend it to others, and find it of the greatest service to myself.

[*From the Scientific American.*]

NEW PHOTOGRAPHIC INVENTION.

Messrs. Seely & Garbanati, photographic chemists of this city, have recently perfected an apparatus by which life-sized portraits may be produced with all the ease and perfection of small pictures. We have examined the mammoth portraits produced by it, and found them quite free from the distortion which has generally characterized large photographs ; in fact the life-size likeness is an exact counterpart in figure and detail of the person, and needs as little of the artist's retouching as the ambrotype or daguerreotype. The cost of materials used in the preparation of the paper is trifling, while the apparatus complete is manufactured for about $20.

The instruments hitherto employed for making portraits of a larger size than 6 by 8 inches are sold at prices ranging from $200 to $1,000, and the chemical preparations required for a commencement involve a large outlay. The old methods, moreover, are uncertain, tedious, and the best results unsatisfactory, till the pencil of the artist has softened down the defects.

The inventors are preparing for exhibition a full length colossal photograph, fifteen feet in height, of one of our most distinguished citizens.

This new instrument, called tne "Megascopic Camera," is similar in principle to the solar microscope. A small picture is first produced in the usual way from the object ; an image of this small picture is thrown magnified from the new camera on to a sensitive surface (paper or canvas), on which it is impressed in a few seconds. Any small picture (portrait or view) may thus be accurately enlarged to any desired extent.

Many of our most enterprising photographers have adopted the instrument, and seem to think that it will come into general use for all pictures over 6 by 8.

POISONOUS CHEMICALS.

BY D. P. MILLER, M.D.

In our medical books we have minute descriptions of various poisons and their effects upon the human system. The poisonous substances most used in the arts and for criminal purposes of course, are more carefully treated of. The art of photography has brought into common use many chemicals which before were not at all known to commerce, and were found only in the laboratories of investigating chemists ; and as poisons they are barely mentioned by Christison and our other standard authorities. I think it quite desirable that the whole subject be carefully investigated, with especial reference to the interests of the photographic profession. At least you may expect that I shall contribute whatever may occur in my own limited experience and observation.

In the present article I will call attention to one or two preliminary points.

It is a curious fact that different individuals are not affected in the same way by the same substance. What is healthful to one, may be poison to another ; to about one in every thousand, cheese is not only disgusting, but really poisonous, to some as deadly as arsenic. Cheese is not the only article of food of this strange character. On the other hand, substances ordinarily recognized as poisonous are harmless to many, through a natural peculiarity of constitution, or the artificial state of hardiness produced by habitual use of small quantities. The opium eater may consume in one day enough opium or other deadly narcotic to poison a hundred healthy men.

Now it is also certain that photographic chemicals are dangerous to some, and harmless to others. The fumes of collodion, for example might be quite unsafe, to a nervous man with weak lungs, while generally operators may breathe them with impunity. Cyanide of potassium is commonly considered a deadly poison ; yet I know many who wash themselves many times a day with concentrated solutions with apparently no evil results. A friend of mine, however, is alarmingly affected by its most careful use, and has been obliged to banish it from his rooms. He is one of our oldest and most esteemed daguerreotypists. On commencing the Ambrotype, his health failed him, so that he gave up his business till he satisfied himself that it was cyanide which injured him. He has now returned to the practice of the art, substituting hyposulphite of soda for the poison.

One of the strangest cases which has come under my eye is of a gentleman who cannot handle salted paper without injuring—not himself—but the paper. Let him wash himself as clean as possible, wherever he touches the salted paper, the photographic print is stained. I am satisfied there are many cases of the same kind, but probably few so marked, while I am certain that I can handle paper in any stage of its preparation without staining it.

The instruction that should be deduced from all the above, is that photographers should study the effect of chemicals upon their own persons.

A FEW EASY EXPERIMENTS WITH A CAMERA.

BY THE EDITOR.

The experiments I am going to describe will be most satisfactorily made with a whole or larger size camera; a smaller one will require greater nicety of manipulation and keener eyes. The results may be made permanent for future examination, by making pictures of the objects in the usual way.

Experiment 1*st.*—Take a focus on a ball of a less diameter than the aperture of the front lens. Note the size of the image. Now, adjust on the tube a stop of small diameter, and the size of the image will be decreased.

Experiment 2*d.*—Make spots on the ball at the extremities of its diameters perpindicular to the axis of the tube. These spots will be visible in the image made with the open lens—but not when the stop is used.

Experiment 3*d.*—Take a focus on the end of a rod pointing towards the centre of the tube, and in the axis of the lenses. With the open tube, the end of the rod will be represented in the image surmounted by a band.

Experiment 4*th.*—Prepare a stop with the opening near the circumference. Make images of the ball and rod; turn the stop half round, and make images of the same objects again. The corresponding images will not coincide when superposed on each other; their shapes are different.

Experiment 5*th*—Place three or four small balls in a row, in the axis of the tube. In the image, with the open tube all will be visible. Use a stop smaller than the diameter of the balls and only the front ones can be seen.

The above experiments teach some useful facts in optics—show the reason of distortion in photographic pictures; and may suggest remedies.

THE ATLANTIC CABLE AND PHOTOGRAPHY.

The Commemoration of the successful laying of the Atlantic Cable will long be remembered by those who had the fortune to be in New York on the 1st of September. No occasion in many years has excited such profound and general sympathy. All business was suspended, and it seemed as if everybody participated in the grand jubilee During the movement of the procession, the whole line of march, from the Battery to the Crystal Palace was densely thronged with eager spectators, while banners and appropriate devices were displayed from almost every building.

We make here a permanent record of what those, on Broadway connected with photography, contributed for the occasion. The morning papers of the 2d, in addition to the following give minute descriptions of the displays made by others.

Gurney's Palace of Art.—This photographic establishment was decorated during the day with flags, one of which it was said, was borne at the peak of the Niagara, while she was employed in laying the cable.

At night the whole building was illuminated with colored lamps ; covering the entire front was a transparency representing a pyramid, composed of five figures : Peace was in the centre coming up behind the electric batteries and giving crowns to Science and Art, (represented by two female figures on her right and left). On the right was a colossal figure of Young America, and on the left a similar figure representing Old England, both in sailor's costume, and each holding the flag of his own country, they being crossed at the top. The whole on a rock in the middle of the ocean. On one side below the Lion of England, and on the other the American Eagle, each holding an end of the cable. At the top of the transparency was the monogram "Victoria," and opposite that of "Buchanan." Under the transparency and in the centre were the names ;

CAPT. PREEDY, Agamemnon.	CYRUS W. FIELD	CAPT. HUDSON, Niagara.

Below this was the legend :

DAGUERRE AND MORSE,
One harnessed the Light, and the other the Light-ning.

Then followed another :

THE ATLANTIC CABLE :
May its " continuity" be as perpetual
as the rays of the Sun.

Connected with these figures were several instruments of art, among which was the camera obscura with the name :

J. GURNEY, 1858.

At the door below were four splendid photographic likenesses of Field, Morse, Hudson and Cooper. The whole attracted considerable crowds, who admired them very much.

Brady's Photographic Gallery.—The whole front of this building, (359 Broadway) the lower part of which is used as a dining saloon, and the upper stories as a photographic gallery, was illuminated by about six hundred candles. The front of the building was decorated with a splendid transparency 50 by 25 feet. It bore on the top the words,

Science, Labor and Art—Union Cable

On the right was a portrait of Field, in the centre one of Franklin, and on the left one of Morse. Beneath were two female figures representing America and England joining hands, while to the right of these, and below, was a steamship with the emblems of mechanism and science, and to the left a sailor from the Niagara. Under this was a bridge joining two countries, and beneath this again, was a figure of Neptune chained, implying that his power was at an end. To the right was the letter B, and to the left the letter V, both surrounded by electric stars. The whole design was well conceived and beautifully executed, and was got up entirely by the employees of Mr. Brady.

Seely & Garbanati.—In front of the photographic establishment of these gentlemen, at 422, 4 and 6 Broadway, was exhibited a colossal photograph of Cyrus W. Field from life, on a scale of about 25 feet for the full length figure. This was said to be the first photographic portrait, of a size larger than life ever attempted. It is an excellent likeness of Mr. Field, and was one of the most noteworthy objects of the day. At night it was brilliantly illuminated, as was also the place of business of the firm.

The portrait was stretched on a frame 4 feet by 5 tastefully adorned with streamers, and inscriptions on the margin. The monograms were MORSE, FIELD on the top and bottom ; DAGUERRE, ARCHER on the right and left. On the reverse of the frame was the legend :

The Tribute
of
Photography.

The whole was set upon a pole about 20 feet in height, and erected on the edge of the sidewalk.

Frederick's Photographic Temple of Art.—The whole front of this splendid establishment, at 585 and 587 Broadway, where portraits of all the great men and women of the day are seen was a blaze of light, as was also the Temple itself. Mr. Charles D. Fredericks, the proprietor was there in person, and with his gentlemanly assistants, did all that was possible to render the situation of his visitors comfortable. Over the large arched window the front was covered by a splendid transparency as follows :

Europe and America.
Daguerre and Morse.
With the figure of a Camera Obscura, resting on
a coil of Cable.

Over the day entrance were the American, French and English flags, in the order mentioned.

Over the night entrance was the following transparency :

Let not dread War's alarm,
Sever the Cable's charm.
But let the Union be firm and Peace ever reign.

EDITORIAL MISCELLANY.

——— We believe our readers will pardon the delay in the publication of the present number of the Journal. Extraordinary preoccupation kept us from our public duties. We thought it better to delay a little than that the Journal should go out without our personal care.

——— Since our last we have practically demonstrated a theory which it is thought by many will bring about a radical change in the ordinary methods of producing photographs.

Sir David Brewster, we believe, was the first to call especial attention to the fact, that most of the distortion of photographs was produced by the use of large lenses; he laid down the principles to be followed in attempting correct representations of nature.—These principles we have constantly kept in view in our experiments. We have convinced many practical men, that, large pictures can only be made correctly with small lenses, that all skillful photographers, with little labor and a trifling expense can produce perfect life size photographs—and that no lens larger than an extra 4-4 is advisable.

We invite an examination of plain life size photographs on exhibition at our office.

——— We have been requested to correct an error at the bottom of page 75 regarding the Lewis Solid Glass Corners. Their glass corners are at present, and for some time past, have been so inserted that there is no danger at all of their falling out or becoming loose. The error in the text was partly typographical. Our correspondent is exhonerated from any intention to misrepresent.

——— Mr. W. J. Hunse, with Mr. J. D. Davis, of Brooklyn, has presented us with a photograph of Hanson Place Church.

The effect of light and shade is admirable; the artist avoiding that strong contrast so much admired by many, but which obscuring the cornice, or mouldings of a building, destroys its symetry and characteristic style.

Mr. Hunse furnishes a hint that may be useful to many, desirous of printing with their negatives, the name of the views: On the lower part of the plate he scratches off the collodion, and in its place puts a piece of written or printed paper; the printing on the positive being of course light letters, on a dark ground; by selecting the tint of the paper it can be made to accord with the color of the back ground of the picture.

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[NEW SERIES.]

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A LETTER FROM LONDON.

224 Regent Street, August 6th, 1858.

Mr. Editor – You probably recollect the sky and side light I planned and erected in my Broadway gallery At that time it was the first and only one of the kind in America. The plan resulted from a desire to establish a first class gallery, in which all the work could be done on the second floor. My present writing about it, was suggested by observing in my rambling here, that amateurs generally were working at great disadvantage with only a weak side light, where my plan might be carried out at little expense, and so securing the facilities of the ordinary powerful sky light. I believe a description will prove of interest to some of your numerous readers.

The light is a combination of a sky and side light in one. The sashes are two, and should be eleven feet long, and five and a half feet high. To set these up the wall (it should face the north if possible) for a space of about eleven feet in length, and about 15 feet in height must be removed. A balcony must be built eleven feet long, and about five feet outward to the panelling 4 feet in height, and extending the whole distance around. Upon the panelling one sash is erected at an angle of about twenty-two and a half degrees, and upon this the other sash at the same angle, meeting the wall along the upper line of the opening. The background wall should be at least four feet from the light. The light should be provided with two muslin curtains of the same dimensions as the light, and strung on wires, so as to be drawn at pleasure. One curtain moves up or down—the other sidewise, thus securing perfect control, and enabling you to produce any effect which good taste may suggest. The distance of the background from the light is a point of great consequence ; upon this depends in a great measure the softness and roundness of the photograph.

We have lately patented a transparent Positive, designed for hall lamps, screens and as a kind of veneering for wood. You will readily imagine how they look, and as they can be easily colored, they will make an excellent imitation of what genuine photo-ivory miniatures ought to be. The photo-ivories have lost their prestige. It is impossible to produce an even tone, or to get out the hypo. The hypo shows itself in a month or two, by the pictures turning yellow, and fading.

I have been often asked the reason of excess of intensity in negatives. This condition of things I have observed will occur, when a collodion excited with a metallic iodide, and bromide has been used many days in a neutral bath, without reiodizing. To determine how much reiodizing is necessary, pour out 1 oz. of the bath solution into a measure glass, and carefully mingle with it drop by drop distilled water till it begins to become turbid. The number of drops required for this purpose will be the number of grains of iodide, per oz. to be added to the whole bath. Test the bath with litmus paper, and if any traces of alcali are visible, add a few drops of acetic acid Filter and you are again ready for operation.

There has lately been introduced here a method for printing vignettes which I do not remember to have seen in America. A sheet of yellow or red stained (enamelled) glass is cut the size of the negative glass. The enamel is now removed of the size and shape which is desired for the positive. In printing the vignette glass is placed between the negative and the light.* The vignette glasses are sold by the stock dealers.

Yours respectfully,

A. G. Grant.

WHAT IS LIGHT?

BY J. MILTON SANDERS, M.D.

We frequently hear the assertion that photography owes its existence and progress to the discoveries which have resulted from the investigations of the chemist. In fact so often has this idea been mooted by authors, that its inception has entirely eradicated the antipodal question of what has photography done for chemistry? The new science of photography has indeed progressed with remarkable rapidity, even in these days of scientific progress; for what was but yesterday in its first age of juvenility is in the enjoyment of the plentitude of adolescence to day. We recollect that it was but a comparatively brief time ago, that in an address to an intelligent audience, we predicted that the fleeting, though supremely beautiful depictions of the camera obscura would soon be indellibly fixed upon an imperishable medium. We received our reward from the appreciative audience in the form of a loud and derisive shout of laughter. And wherefore should they not laugh? Was it not a rash prediction for a sensible man to venture upon? Who could suppose that the evanescent shadow which the sun had so fleetingly thrown upon the ground glass of the camera, could be converted from the intangible to the tangible—from a nonentity to an entity—by the magic wand of the chemist? Yet such has been the case, as hazardous as the thought may appear; for upon seriously reflecting upon the fact, perhaps there is not an achievement in science which is so wonderful as that which has fixed the fleeting rays of the sun, as it were, upon paper. Perhaps this latter assertion may appear to many persons as gratuitous, for it is asserted that the beams of the sun in their oscillations only impinge upon the chemical substance exposed to their progress, and thus effect a change in them, but do not partake themselves in that reaction. This we regarded as unphilosophical. We know the sun's beams to be of a composite nature, while careful and rigid investigations—especially by Prof. Robert Hunt, of England—have established the fact that each ray composing the solar beam, is gifted with its inherent and especial function. For instance those non-luminous rays far beyond the violet ones, and therefore the most refrangible of all the solar rays are referable alone to chemical action, while those rays of the least refragibility, such as the red ones, have an effect almost diagonally opposite the active ones, or directly antagonist to them. We know that the various colorific rays are each gifted with their specific properties, and which properties are especially called into play in the economy of nature at certain portions of the year. We also possess the power of appropriating these rays to their specific uses—of sifting them out with all the properties belonging to them,—and of appropriating them to the wonderful task they were created for.

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*The same object is more easily accomplished here, by the use of wooden or metallic diaphragms, or an opaque paper properly cut out and placed between the negative and sensitive paper.—[Ed.]

If it then be true that the solar beam is composed of certain rays to which are imparted certain properties, and that we possess the knowledge of the methods of appropriating these properties, isolated to their definite uses, and if it requires the absorption of these rays to produce certain chemical effects, and that these effects are only cognisable in a direct ratio to the amount of these rays absorbed, is it not philosophical to infer that these rays are really not a nonentity, but an absolute substance—that light itself is not mere osciltatious in an imaginary ether, but that it is composed of certain groups of particles, each group of which is gifted with certain specified natures as definite and tangible as is the natures of the elementary bodies themselves?

We take this ground. But it was only after having investigated the nature of light photographically for years, that we were led irresistably to these conclusions. We are not alone in them, for similar investigations have led Prof. Hunt and other philosophers to the same train of thought, and they have arrived at the same conclusions. It is true that the theory of oscillations will account for many facts observed in light, but will it account for all? A single failure will prove fatal to it, and it has failed too frequently in the investigations of photographic experimenters to warrant its adoption. If light be simply oscillatious, how is the fact accounted for that it can be absorbed by the diamond, and retained there for any length of time, and then released from its prison as brilliant as it was at its absorption? How do we account for the actual bottling up of light, as has been done by Prof Stokes, and then of its releasement, without injury to any of its photographical properties. How do we account for the wonderful molecular change which many substances undergo when those refrangible rays termed the *actinic* fall upon them? These phenomena can only be accounted for, upon the supposition, that light is an actual entity, and possesses the properties, like all other entities, of entering into combination with the substance it falls upon, and then modifying its molecular constitution. If this were not the case then we should not look for the wonderful and striking changes we daily witness in the photographic room, for these changes can only be referable to the theory that light like all other material substances, is an entity and not a non-entity.

Photographic science is full of curious facts corroborative of the theory of the sagacious Newton, that light is *corpuscular* and not *undulatory*. In a future paper we shall adduce some of these facts, so that the photographer may be furnished with sufficient data to found the true opinions that there can be no actual change in matter, unless matter itself is the inducing agent to that change, as that which is not matter is nothng.

A NEW VIEW CAMERA BOX.

BY H. GARBANATI.

Photographic views are coming in vogue amongst us. A crop of amateurs is springing up all around. Any thing therefore, pertaining to that branch of the art possesses more interest now than it would a few months ago.

Our heavy lumbering view Camera boxes have been hitherto much against the practice of views photographic. In Europe, they have been a long time ahead, though by no means perfect; judging by what may occasionally be seen here and by drawings of their view apparatus, there is still much room for improvement. Nevertheless, in their first start in the view line of photography, they had something really adapted for the purpose, though crude and rough. Archer's first view camera box was also a dark room; with his arms thrust through two odd-looking black sleeves, and his eyes peeping through yellow glass, he used to conduct his manipulations—inside the camera box, which was fitted with shelves, some pierced to put funnels through and stand bottles on, so that when he had taken his views, he had merely to take up his camera and walk.

Seely & Garbanati have invented an excellent folding camera box, which admirably concentrates the space required for taking pictures.

The box in view is suited for taking pictures 14 x 11 to turn, with sizes down to 8½ x 6½; when closed it looks like a travelling case, and is seventeen inches square, by 6 1-2 broad, and as far as the materials will allow, is quite light.

To work it the front is let down, when it forms the base board or plinth, and a piece of wood about 6 inches square, with a hole in it for the lens is drawn forward, to this small front is attached the india rubber extension, increasing in size until attached to the larger frame, at each corner is an india rubber spring, to support the slack which any variation of focus will give, the front containing the tube, rests on a brass upright which runs freely in a groove, and is fastened in its required place by means of a thumb screw, in the interior of the box several bottles may be easily stowed away for the convenience of carrying. The shield is furnished with pure silver corners, and a rule with slide and spring, and is slid into a groove in front of the object glass, when not in use, and protects the same. The cost, handsomely polished wood, is $25.

CARBON PHOTOGRAPHS—PHOTO-ENGRAVING, &c.

BY THE EDITOR.

I intend to fulfill in part in the present paper promises made some months since to the readers of the Journal regarding carbon photographs. Other duties and absence from the city have delayed experiments I had proposed to make before discussing the subject in public. Even now, on some points I have only theory or suggestion to offer; yet I consider it worth while to publish what ideas I have, although they may be crude, in the hope that others with more leisure than I can command, may pursue them to some practical end.

As to carbon printing, I have little doubt that photo-lithography will prove the best process where many copies are needed,—the best in view of economy and rapidity. The preparation of the stone requires little labor and but a few minutes, when it is ready for printing in every respect by the ordinary lithographic press. Photo-lithographs can be produced cheaper than other lithographs, for the reason that the photographic impression on stone is easier made than a drawing in the usual way (an important item) while all other expenses are precisely the same. As to the permanency of photo-lithography nothing need be said; and any who have examined the best work done by Cutting, Bradford and Turner, of Boston, and Isaac Rehn of Philadelphia, are satisfied that the photo-lithograph are not far behind the photograph in truthfulness. I have seen no carbon impressions produced in any other way that can be considered superior as pictures.

On page 32, bi-chromate of potash &c., are alluded to as materials for producing carbon prints, I commenced experiments with those substances eagerly. The theory of the process, and the manipulations seemed palpable and easy. But my ardor cooled on learning from the " Bulletin " that M. Poitevin had anticipated me by several years—had not only made photographs in carbon, but a variety of pigments by the same plan.

The method I find quite easy is as follows: I make a solution of gum arabic in water about as thick as molasses. With this I grind on a glass or in a mortar a sufficient quantity of calcined lampblack, ivory black or other pigment. When the mixture is thorough I add in the dark an equal part by measure of a saturated solution of bi-chromate of potash in honey diluted with an equal part of water. The whole is now to be carefully mixed by stirring or grinding. This intimate mixture is a point of the greatest consequence. The paper I prefer is the highly albumenized. The mixture is laid on by flenting or with a large flat brush. Dry in the dark The printing is performed in the usual way, only using about half the time for ammonia-nitrate paper. After exposure the print is soaked ten minutes or more in water, and then exposed under a stream of water till the whites are fully brought out.

Any one on reflection will perceive that the above process cannot produce a picture so perfect in detail and delicate shading as the ordinary silver prints. The only recommendation I can give it is the permanency of the results, and its simplicity and economy. Although better pictures have been produced here than the specimens of Mr. Buncy's work sent by Mr. Sutton to America, they are as yet slightly inferior to the best photo-lithographs. Assuming that they may be made of the same quality, it appears to me that photo-lithography will be found advisable when fifty or more prints are required.

The changes I have made in the process as published are: the use of honey to facilitate the washing developement and the albumenized paper.

I have attempted on a totally different theory to produce carbon prints, and although I have not had much success, I have not lost confidence in the principle. It is well known that a mixture of chlorine and hydrogen is extremely sensitive to light, combining speedily and only in the light. If castine of hydrogen is substituted for the hydrogen, the carbon is precipitated on exposure to the light. Saturate a sheet of paper with camphene (a carbide of hydrogen) and expose it to the camera image in an atmosphere of chlorine, and the image will be fixed ; or expose the camphene paper to the vapors of chlorine or bromine—and then to the image or render a negative. Such a proceedure thus stated is evidently impracticable, yet I have little doubt that it may prove the germ of something valuable.

Photo-Engraving.– For the following process I am indebted to Mr. Joseph Dixon of Jersey City, by whose courtesy I am permitted to give it to the public. I have had no opportunity to test its value by trial, but I am assured by Mr. Dixon that it is capable of very good results.

The process is founded on the fact that if a polished steel plate be rusted in spots printers ink will adhere only to the rust from which it may be printed in the ordinary way. Expose a paper or collodion photograph to the vapor of iodine. The iodine is absorbed only where the impression exists. The photograph is now pressed in close contact with a steel plate prepared as for engrossing. The iodine partly leaves the photograph and rusts the steel correspondingly. The time required for rusting properly may be days. The applying the ink and printing are quite similar to the common method of the steel printers, making the necessary variation for the raised surface instead of cavities.

A conversation with Mr. Dixon on the above suggested to me a plan which has some advantage. It is commonly known that if an ambrotype be cautiously heated to about 500° the collodion film burns away, leaving the whole of the silver picture undisturbed and adhering to the glass. The plate may now be etched with hydrofluric acid, and thus a tolerable printing surface obtained. But I should prefer to transfer the collodion picture to a plate of metal, burn the film, and etch with any acid which will not effect the silver. I found the transfering the film easy enough, but on burning the film the silver did not adhere, owing apparantly to a film of oxyde formed on the plate. If the metallic plate is first amalgamated the difficulty is mostly overcome but the sharpness of the etching suffers.

Both of the above processes require a positively transmitted light.

FOCAL ADJUSTMENT.

BY H. GARBANATI.

Many photographers, experienced and excellent artists, able to take first class pictures by rule, are yet unable to focus a camera. They can tell in a moment if 'tis sharp, or has full field, or the requisite depth, but should there be any lack of any of these qualities in the first pictures they take, they will unhesitantly condemn it, perhaps send it back to the seller of it as worthless, and often put him to much expense and inconvenience. The purchaser is as much inconvenienced as the seller from delay in obtaining another, and no doubt often vents some hard words on the supposed cheat.

To enable the uninformed operator, especially when at a distance to find out if the evil is remedial by himself, without much trouble, will be a service to both buyer and seller.

To find out the capabilities of a camera it is not necessary to take a picture, but simply to look carefully at the various images depicted on the object glass. Any camera that will give sharp, deep, and full-spaced objects on the glass, will take just such a picture, and if it does not upon a trial, it is certain the defect is to be remedied without re-grinding the lenses.

The defect is to be found in a difference between the chemical and visual foci, or in the box or shield : the first defect ought, of course, to be corrected by the maker, or if not, by the seller, as the customer should not have unnecessary trouble ; the second may be beyond the control of the seller. As many parties order tubes to fit boxes on hand, it becomes proper they should know how to test the new instrument, and not be sending it back on its travels without just cause ; the box or shield may have already been altered to suit some tube with a difference between chemical and visual foci, when it would of course not suit a tube with corrected foci. I once had given me a French instrument to correct, with a quarter of an inch difference ; the tube had been thrown aside as useless, and yet was a very excellent one after all ; all that was required was to have a shield fitted for it, with the requisite difference between it and the object glass ; this shield, of course, if used with any other tube would give a blurred picture. At the same time I had quite a number of cameras, mostly whole size, to overhaul, all of which had been once or more returned, and though none were really good, they were quickly sold at a second rate price, the differense was in the glasses, and varied from ½-16 to $\frac{1}{8}$. Having found the difference, I marked it in equi-distant spaces on the tube, and cautioned the buyer to turn it in or out as required after focusing, or to set the ground glass forward or back.

When a camera will give a good picture on the ground glass, yet impress an inferior on the plate, the easiest mode to find out the true focus is, to get a thin piece of wood, say three feet long, and make about five saw-cuts on the edge in a slanting direction downwards, in each of these cuts put a card with a different number, or figure rather large, or a playing card, and for the want of some more convenient mode, fasten the centre of the piece of wood in the top of the head-rest, so that it may be kept in position by one of the side thumb screws, at an angle of about ninety degrees; having done this, get a sharp focus on the center card, and take a picture; if the picture comes sharp where focussed, the instrument and shield used are of course right, but if one of the upper cards is in focus on the plate, the focus is forward, so take a knife and make a mark on the tube, and focus on the picture that came up sharp, and make a mark there also, for that is the right focus, and the tube has always to be put forward that much after having focussed on the ground glass; or set the ground glass that much forward in the frame, as a permanent focus: if the focus should come on one of the lower cards mark the same way, but the focus is backward, and the tube must be turned in that much, or the ground glass be set back by means of pieces of card board or wood.

Very excellent pieces of apparatus have been invented for focussing, but the above answers all purposes, and is simple and inexpensive.

A LETTER FROM MONMOUTH.

Monmouth, Sept. 13, 1858

Mr. Editor,—Since I am located a little longer than usual, I intend philosophizing—odd as it may seem—on the practices of our art.

Of course, in giving instructions, you caution your pupil to strictly adhere to them: now this is very proper, when the circumstances are equal, but it is not requisite any one receiving a formula should be a slave to it; still it requires judgment to deviate; herein consists the difference between natural and acquired ability. A man must have sufficient judgment to know when and where to differ from his instructions, which were doubtless good and well adapted to the circumstances under which they were given; they were given suitably to the use of chemicals of a certain quality, pure it is to be hoped, and if the instructions were given by an able instructor, the less variations will they admit of under similar circumstances. One writer prefers an acid bath, and arranges all other chemical appliances to suit it. He gets nitrate of silver with some nitrate of potash in it; if he has been on the CHEAP, 'tis likely he will do so, he puts in the amount of acid required by the process, and considers his bath acid, yet his bath may not be so acid as required, a portion of ths acid has been required to neutralize the alkali contained in the *pure* nitrate of silver; or he may have received a process requiring an alkali or a neutral bath, and get acid nitrate of silver, the acid alters the circumstances; he may not have been sharp enough to apply test paper on the mixing of the bath, indeed if he had received the proper chemical he would not have required it, and he is thrown out of his reckoning, is led into a series of experiments, until he is misled in his manipulations; or he may blame some innocent chemical, and be led farther astray. The same rule may apply to any other chemical than nitrate of silver, with equal force. All formulae have their bases on pure chemicals, and one impure will lead the rest astray. It is absolutely necessary that none but the best should be used, they are cheapest, much the cheapest in the end, they save money, time, reputation, and patience.

These remarks do not only apply to chemicals but to water and paper; the former will often lead astray. In New York, almost all use the Croton filtered. Yet, sometimes after a hard rain, it is charged with minerals or salts to the confusion of the photographic process.

It was only recently I was aware that the paper had so much to do with success, though I always knew it made some difference. It was in noticing the positive influence the particular paper had when used with the Megascopic camera that I was led into these remarks. A friend of mine who had met with singular success when first using the instrument, was, when I paid him a visit some weeks ago, in a positive fog, the picture seemed to be in the interior of the paper. The elements of a good picture seemed there, but obscured by the surface of the paper like a screen. Yet the paper gave excellent results by the ordinary printing process ; he tried many expedients to coax it out, but it stayed modestly hidden behind its screen, like a bashful young lady as it was. It was good for coloring, but that it was not good for selling plain, was very palpable.

Happening to have a little English paper with me, I proposed trying it, and with excellent success, which proved that paper good for one purpose, may not be suited to another. The German paper used gave a reddish brown tone obscured. Some French, I was informed, gave a blue. The English gave black and white. The result though not satisfactorily proving that the particular paper used was infallably the best, shows that the dressing of different papers has much to do with particular processes. And what is your experience, Mr. Editor ?

GOSSIP.

PHOTO-KALEIDOSCOPES.

BY E. K. HOUGH.

Every photographic operator knows the value of ways and means for keeping his visitors in good humor while compelled to wait their turn for a sitting. Without such means they often get expressions of anxiety and impatience that interfere sometimes seriously with successful results. With this thought, rooms are often richly furnished to give the soothing influence of luxury and ease. Also the walls are hung with pictures to charm the attention into self-fancyfulness—which is the best possible mental condition for a perfect likeness, could it be always attained.—But these pictures too often are only a monotonous series of faces with but little variety of expression or position,—with few elements to interest beyond a passing glance as specimens of the artist's success in chemical effects.

Landscape views have a large variety of objects, and when well executed from interesting scenery have much more power to engage attention than mere portraits can have, and it seems strange that so few adorn our galleries. But, best for the purpose named is something that contains facility for new combination and variations at the option of the observer, and of course it were always better that it have some relation to the photographic art. That which will meet all these requirements most fully, is undoubtedly the stereoscope, with a large variety of interesting views, for none other can show so strikingly the wonderful capabilities of the art.

But as they are too rarely found, especially among country operators, and moreover are slightly expensive, I wish to suggest something trifling yet an amusing substitute which can be readily constructed by any artist in his leisure moments, and almost without cost. We all remember the interest with which we have watched in our boyish days every varying scenery of the kaleidoscope.

We are but "children of a larger growth" and the toys of childhood are often reproduced in manhood, only on a larger and more expensive scale.

I will give in a few words my plan for the construction of a photo-kaleidoscope.

With a couple of strips of black glass—which can be obtained of any suitable length from the stock dealer,—a few strips of card board and fancy paper, a tube can be constructed in an hour. Then in place of bits of glass having no charm but color, I would substitute small pictures on glass ; either common ambrotypes or transparencies produced by printing from negatives on collodion. If to be viewed by reflected light, they should be colored, coated with benzine, or collodion varnish and placed on a clear glass fitted in the bottom of the tube, and a dark opaque ground placed behind. In this arrangement openings should be left just above to illuminate them.

With the transparencies, the sides must be closed and the light admitted at the end through a fine ground glass or oiled paper, and the pictures should be colored with brilliant transparent colors. The figures should be full length, quite small and very sharp, on square or oblong plates, and so arranged between the glasses that hold them in their place, that while having a free sliding movement singly they cannot lap over each other. A moment's consideration will convince that when well constructed and filled with figures in dancing, pugilistic, clownish and similar attitudes, the thousand shifting combinations will present many comical and amusing phases, especially if they have a local interest. And if in any room the tedium of "waiting for a picture" (to which "waiting for the wagon" is no comparison) should be somewhat relieved, my purpose will be accomplished.

EDITORIAL MISCELLANY.

——— We find in our foreign exchanges the following methods of exhibiting stereoscopic pictures to a number of spectators at the same time. The author is J. C. D'Almeda. The processes were first published in "Comptes Rendus" of July 12th, 1858.

"1. By means of lenses, the images of two stereoscopic prints similar to the ordinary ones are thrown upon a screen. The projected images are superposed upon each other, nearly in the relative position in which they would have presented themselves if the objects represented by them were before the eyes. These two images form upon the screen an intermingling of lines which only presents confusion; and it is necessary that each of the two eyes should only see one of them—that of the perspective which suits it. For this purpose the author places in the course of the luminous rays two coloured glasses which have no element, or scarcely any element, of the spectrum in common. One of these is the red glass well known to physicists; the other a green glass which he has obtained in the shops. By means of these colored glasses, one of the images thrown upon the screen is rendered green, and the other red; and similar glasses being placed before the eyes, the green image alone will be perceived by the eye covered by the green glass, and the other to that furnished with the red glass. The relief then appears immediately.

"When the observer changes his place before the screen, the phenomenon persists, presenting the modifications which the most simple notions of perspective would enable one to foresee. A very remarkable modification is observed on moving to one side; it appears then as if one saw all the changes which would be perceived if the objects were really in relief. The objects of the first plane appear to move in a direction opposite to that of the spectator, which adds to the illusion.

"2 In the second process the two images are kept colorless; each eye is enabled to see the one which is adapted to it, by rendering the production of each image intermittent, and shutting off the sight of the screen, sometimes to the one and sometimes to the other eye, at the moment when the image which it should not see is produced. For this purpose, the light which is to illuminate the stereoscopic prints is previously brought to a focus by converging lenses; in front of the two foci is placed a cardboard, capable of turning round a horizontal axis, and pierced with a circle of holes, which passing in front of the two foci, allow the light to illuminate the two prints alternately. Whilst this wheel turns, the eyes look through the apertures in another cardboard revolving on the same axis, and pierced with holes in the same way. The right eye can only see at the moment when the right perspective appears, and the left eye also becomes free when the left perspective makes its appearance: this may be effected by a small electro-magnetic apparatus."

The ingenuity of the above is more to be commended than its practicability. The red and green images of the first method could hardly assimilate so as to produce a harmonious or pleasing picture; the view would be wearisome to the eyes. The second method would cost too much.

A better plan than either would be to unite the two images, thrown on separate screens at a suitable distance from each other, by means of two small mirrors on the principle of Wheatstone's original instrument. The mirrors may be small enough to be carried in the vest pocket, and would cost but a trifle. They should be hinged so as to open like a book—and the amount of opening adjusted by a screw. In use the angle of the mirrors is brought as near to the eye as possible. The mirrors may also be attached to an ordinary opera glass.

——— We have been many times asked why we do not publish replies to Correspondents. We believe the reasons for making the Journal differ from all others in this respect will be found satisfactory.

The greater part of our minor correspondence is about such elementary matters that the readers of the Journal ought to understand. It could only be published to the exclusion of what we consider of more consequence. Questions are asked in view of a promise of answers by mail. Many Correspondents are not readers of the Journal, and all are desirous of immediate attention.

Yet we may shortly conclude to add a few pages and thus make room for many little things which will not otherwise appear.

———Our attention has recently been called to a vast amount of trash about "saltpeter," and "explosive tables" in a publication styled a "Journal of the Daguerreotype *and* Photographic arts *and* the Sciences and Arts pertaining (!) to HELIOGRAPHY."

It seems that some photo-pickwick discovered the fact and communicated it to the Journal styled as above, that wood was made more combustible when impregnated with nitrate of silver. The simple story proved a firebrand in his camp; a fierce battle ensues, and a terrible clatter about "tables" "saltpeter, and FULMINAN."

We allude to the affair here in order to recall to our readers a useful observation no doubt often made, that the greatest wisdom and strength are often akin to folly and weakness. It was said that the hero of Trafalgar was a very coward on shore. Now we behold an editor of a periodical "devoted" to arts and sciences, himself a *chemist* and *undertaking analyses of* SOILS apparently ignorant of things which every common school chemistry teaches.

———Our correspondent Mr. P. C. Duchochois has returned from a very successful photographic tour in New Jersey and Staten Island. His stereoscopic pictures as photographs are among the most perfect we have ever seen; while his subjects are well chosen and of the most interesting character. Few are aware of the beautiful natural scenery we have almost in our midst.

We believe American views will soon be in demand, and that people will be convinced that every branch of photography is as thoroughly understood here as abroad.

——— We are indebted to Mr. Runkel of this city for a superb view of Nassau street, also to Mr Rehn of Philadelphia for a collection of photo-lithographs. Mr. Rehn is one of our most skillful photographers;—all his works praise him.

——— Our readers will please consider that they have a standing invitation to visit our office, and examine or enquire about anything that is mentioned in the Journal.

——— We have had our eye on the gun and kept dry powder for our especial foes,—the quack process peddlers. But there is no game; are they scared away? have the birds flown to Summer quarters? Only one paltry little circular (about making good negatives from ambrotypes (?)) has come within our observation for months.

We are beginning to believe that our Journal is one of the great powers, for the extinction of humbug in the photographic profession. Our subscription list is increasing almost by geometrical progression.

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TRANSFERING THE COLLODION FILM.

HOWELL'S PATENT.

BY THE EDITOR.

Acids in contact with the collodion film, contract it; upon this fact depend the ordinary methods of transfering to paper, leather and other surfaces. If a collodion be taken which in ordinary use gives a film adhesive to the glass, acid, especially nitric, applied in any stage of the production of the picture, will lessen the adhesiveness, so that the film will easily separate. For the purpose of transfering, however, the acid is best used only after the picture is fixed and thoroughly washed and dried.

The ordinary process is as follows: Make a very dilute solution of nitric acid in alcohol,—about one drop of acid to the oz. of alcohol. Pour this solution on and off the ambrotype for some minutes. When the film is well penetrated by the solution, it contracts seeming to become tougher, and loosens from the glass. When this effect is produced, wash the film thoroughly with alcohol to remove the acid. The film will now attach itself to patent leather, waxed or varnished cloth or paper, which needs only careful pressure against the film on every part. With a little dexterity now the paper or leather is detached from the glass,—the picture coming with it uninjured.

In this process the alcohol with the acid is preferable to water, for the reason that the alcohol penetrates the film more readily. Instead of nitric acid, sulphuric may be used, and perhaps prefered, for the reason that it has less action on the alcohol, and the silver of the picture. The process is, we believe an American invention.

Mr. Edward Howell of Ashtabula, Ohio, has lately called at our establishment, and skillfully demonstrated his ingenious patented process. His method is substantially as follows:

The glass plate on which the ambrotype is to be made is first prepared by coating it with a thin film of wax or its equivalent. This he effects by warming the plate, after being thoroughly cleaned, till a small quantity of wax laid on its surface melts and flows over it. To equalize the stratum of wax and make it quite thin, he uses a cotton buff in the manner of buffing daguerreotype plates. The plate is now ready for making the picture in the ordinary way. After the ambrotype is fixed, washed and dried, it is covered by flowing with a black varnish rendered more adhesive and tacky by the addition of a little Canada balsam. When the varnish is nearly dry, yet still a little tacky, the paper (previously cut in shape and soaked in water,) is laid on and pressed in close contact by means of a small roller covered with a cushion of cloth.

I am assured by Mr. Howell that a failure is never necessary. The solvent of the varnish may be benzole Chloroform or ether. I think it would be an improvement to apply the wax in solution with benzole or camphene.

To those who want a transfer process, I would recommend Mr. Howell's patent. His terms are so moderate (three dollars for a room right) that there is no temptation to infringment. Artists generally however, will prefer the Niello paper, on which the picture is made direct.

Mr. Howell may be addressed at Ashtabula, Ohio.

ON ALBUMEN.

BY P. C. DUCHOCHOIS.

Albumen is an alkaline body containing amongst its constituents a small quantity of sulphur, to which is due the coloration of silver baths, and also without doubt the alteration of positive proofs. It is soluble in cold water, but becomes quite insoluble when coagulated. The alkalies increase its solubility and often re-establish it.

Albumen is found in a great many vegetables, and in a state of solution in serum of blood and milk, eggs and almost all the animal fluid. For photographic purposes it is generally extracted from eggs of hens and ducks.* The albumen of blood appears to give more rapid preparations, but is more liable to peel off.

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* The white of an egg contains about ⅐ of pure albumen.

Albumen is completely coagulated by a temperature of 167°; the coagulation commences at about 149°. Potash and soda prevent its coagulation by heat, and even dissolve the coagulum.

Some acids and metallic salts coagulate albumen; such are the following used in photography: nitric and sulphuric acids; iodides and bromides of iron, zinc, cadnium; nitrates of silver, zinc and copper; protochloride of mercury. Muriatic acid dissolves albumen and gives a fine blue violet coloration.

Iodine has a greater affinity for albumen than for starch; thus if iodide of starch is added to albumen it is discolored, and the blue color characterizing the presence of iodide, when starch is employed as a re-agent, does not manifest itself.

Acetic acid does not coagulate albumen, but forms with it a compound soluble in warm water acidulated with the same acid. However, united to nitrate of silver, in the proportions generally used in silver baths, it partly coagulates albumen, giving quite insoluble preparations not subject to scale and very favorable for receiving a photographic image.

Ether, alcohol, turpentine, creasote iodine, &c. coagulate albumen. Bromine and tincture of iodine do not. On coagulating, albumen acquires an excessive tenacity, which renders it very unfavorable for photographic operations, by the slowness with which it permits the sensitive film to be impressed by light. This cause of insensitiveness is absolutely mechanical, and the rapidity can be increased to such a point as to obtain a portrait in 30 or 35 seconds, by uniting the albumen to substances that keep it in a state that prevents its too strong coagulation, and give to the film a porosity that it naturally wants. The following substances answer very well this purpose: glycytrhizine, dextrine, serum of milk and blood, glycerine, soluble starch, honey, metagelatine, sugar of grapes of milk and others, acetic acid united to sugars.

The addition of sugar prevents also the albumen from scaling, by keeping it from a complete desiccation, and allows it to increase the amount of iodide without fear of crystallisation. Albumen is a very unstable body and cannot be kept in summer more than 48 hours without decomposition. By adding about 2 or 3 per cent. of concentrated ammonia, it will keep for weeks and becomes very fluid; but it will favor those threads of mucous which are very troublesome in the preparation of the glasses Mr. Hardwich as well as Mr. Laborde, advise the acetic acid to render the albumen fluid, inalterable and free from mucous threads.

The fermented albumen keeps better, coagulates less strongly and is more fluid than ordinary albumen; it is prepared by mixing 100 parts of albumen wtth about 12 parts of honey or sugar and a little yeast. The fermentation commences in a few hours at a temperature of 65° and continues 5 or 6 days. When it has ceased, filter through linen and paper to separate all solid matters This albumen dried can be re-dissolved and will give very good results if used pretty thick.

Albumen is obtained by beating the whites of eggs without any yolk until a thick froth is formed. In leaving this froth to settle for 30 hours, the albumen will reliquify free from any solid particles and sufficiently pure for photographic purposes. Such albumen is contaminated with carbonate and sulphate of soda, phosphate of soda and lime and chloride of sodium.

THE INFLUENCE OF THE OPERATOR ON THE SITTER.

BY H. GARBANATI.

In my wanderings over the surface of this our terrestial speck in wide creation, I have visited many Photographic establishments—large and small—magnificent establishments in great cities, ten centers in ditto, perambulating wagons, and temporary pick-ups in villages; indeed, all sorts and styles, that make old sol their penciler, and rays of light their pencils, and, of course, have had many opportunities of observing their modes of working, their various means and manners, which insure success or failure.

Nothing struck me more forcibly than the numerous failures in obtaining favorable expressions and positions of the sitters, the more especially of children, the "awkward booby," or "troublesome brat," as some would say; but the difficulty is not always with the sitter. Readily acknowledging the difficulty many persons, especially of a lively imagination, have of retaining the same expression for some seconds, and the almost useless efforts, many times, of keeping children still, I maintain, the trouble is often in the movements, and want of management of the operator.

As regards children, I have been very successful myself, and know others can be also. Children of a lively character, the ones whom the mothers most dread will not be still, are generally the easiest controlled for a short time, and their attention most easily riveted; the quiet and morose are the naturally troublesome. But, how can one expect a perfect stillness is to be attained, when a child is watching the antics of the man at the camera. One man thinks a great noise is an excellent mode to adopt, so flourishes the black cloth over his head, and awakens echoes with his yells; the child has been watching his movements, perhaps is frightened, and failure is certain. Another gets some toy, and plays with it, talking to the child all the time, moving about with a like consequence. Another gravely tells the child to look here, "don't move," and wonders the baby did not obey his injunction. How can any one expect a child to go through the serious ordeal of perfect stillness and fixedness of purpose without taking the necessary precaution to insure it. The first thing to be done is to insure the perfect confidence of the child, that it may know, that the strange man, and the singular piece of apparatus be pokes at it, with all sorts of preparatory movements, mean it no harm, but, that on the contrary, the product is to be something decidedly amusing, and of great interest to the aforesaid baby; for this purpose. the artist must start with something in view, some plan of action, and whether a bird or a kitten is expected to come out of the camera, or the interest of the child is to be found in twiddling the cap of the tube, all his movements must be exceedingly circumscribed in their range, that the eye of the child may not ramble from the object, nor its body move in obedience to the impulse of the eye. With grown persons, also, the influence of the operator is potent A surly, grave-looking individual, is more adapted to make a person think of grumbling or of tombstones than anything pleasant; and a very mercurial one is not adapted to keep the eye steady. Now, just look at neighbour Dipper standing right in range of the eye of his sitter, the cap of the tube raised above his head in his right hand, bobbing up and down keeping time: what business has he to subject his customer to such a task as keeping still. steadily looking at one object, with a pleasant expression, when he is doing all he knows how to divert his attention; now, the time is nearly up; he brings the cap forward ready to shut off the light; he stops, is not quite certain, gives a little more time, hesitates again, now bobs forward, shakes the cap, the climax is nearly attained,—now—he shuts it, "that will do," the deed is done, and he has made his sitter nervous.

Let me advise: receive your customers with quiet ease; state your prices, and don't bargain; fix exactly upon what is understood as to style and size; and when you take a picture, if of a child, gain its confidence, and attract its attention by a very little movement in a limited space. If a grown up person, state the object to look at, mention perfect freedom, to blink in a natural manner, and stand still, with your profile to the sitter, (if not a remarkable one, so as to appear ludicrous,) and look at no particular object, and you will be more liable to obtain a likeness with a good expression, and ease, too, if you have any natural, artistic taste.

CURIOSITIES OF VISION.

BY W. CAMPBELL.

In viewing objects by the human eye, very little indeed is really seen in perfect focus at one time. To make up for this, however, the eyes are gifted with remarkably quick motion, so that we fancy we see all before us at once, when in fact we have really taken the view in detail. Indeed so quick is the motion, that the mind has not power to follow it, but takes cognizance only of that on which the eye rests for an instant. But on whatever object the eyes rest, one eye is sure to see more of that object, or of the objects beyond it, than the other eye, except where plain surfaces intercept the view, in which case, the focus of each is alike, or in other words, the vision of one eye is always shorter than the vision of the other eye, when looking at the extreme edge of objects, the one eye seeing further around or beyond it, thus giving to the mind an idea of space, the objects occupying this space being seen in relief. Education however, has much to do in adding boldness to the view.

Suppose instead of using two eyes, we shut one, the mind has not now the some idea of space, in fact it has lost the knowledge of distance, as may easily be shown by endeavoring to pour water into a bottle, or by trying to touch all small objects without groping for them. In many cases there will be a failure, whereas with both eyes open there would be no doubt of success. Where one eye only is used, everything appears further off and smaller than when both are used, and the relief or solidity they present is more a matter of education than is generally supposed, A very singular instance in proof of this is given by Dr. Cheselden, speaking of a person whom he had couched he says: "We thought he soon knew the nature of pictures, but found afterwards we were mistaken, for it was two months after the operation before he discovered that they represented solid bodies, even then he was no less surprised expecting they would feel like the things they represented. He was amazed that those parts which by their light and shade appeared round and uneven should feel like the rest, and asked which was the lying sense, feeling or seeing? Being shown his father's picture drawn in miniature and told what it was, he acknowledged the likeness; but asked how it could be that so large a face should be contained in so little room? saying it would have seemed as impossible to him as to put a bushel of anything into a pint." It is quite clear then, that education has much to do with seeing right. So that it becomes a matter of importance to educate the eye.

To those accustomed to the stereoscope, nature presents a far more beautiful aspect, everything appears bolder and more distinct, and to the landscape painter every form in nature is elegant and graceful, whilst to the eye, unaccustomed to observation nature is very commonplace. It is curious to observe the effect the first view of the stereoscope has upon different people. The majority are surprised and delighted; some are at a loss to understand it, but are no less pleased, others again, clearly show by their apathy that they do not see it at all, that in fact it is no more than a mere picture, and even when made to comprehend the singularity of the exhibition, they fall into no raptures at its beauty. To this class a large angle will never be too much, whilst to the former a very small angle would be satisfactory, and this difference does not arise from any peculiarity of vision, but from their discernment and temperament. Some allowance however aught to be made for the extraordinary aspect of the picture. The mind is not prepared to admit that perspective could be carried to the extent of the stereoscope.

From Photographic Notes.

ON THE TREATMENT OF NEGATIVE NITRATE BATHS THAT ARE OUT OF ORDER.

BY THE EDITOR.

If a negative nitrate bath for collodion is simply alkaline, acidify it with *acetic* acid, adding a drop or two at a time, and testing it with litmus paper between each addition of acid.

If too acid with *nitric* acid, add so much of a solution of carbonate of soda as is necessary completely to neutralize the nitric acid, or even to render the bath alkaline, and then acidify it again with *acetic* acid. On first adding the carbonate of soda a yellow turbidity is produced, with effervescence; this is due to the formation of carbonate of silver which is speedily re-dissolved and carbonic acid liberated. As soon as the carbonate ceases to be re-dissolved, the whole of the free nitric acid is neutralized. On adding acetic acid the carbonate of silver is decomposed into acetate of silver and carbonic acid. A small portion of the acetate of silver (which is a white salt insoluble in water) is then dissolved by the nitrate of silver in the bath.

Never add ammonia to a negative bath, and never use the ammoniacal salts in photography, (except the iodide for collodion positives, and even in this case it is a question whether iodide of potassium is not better). The salts of ammonia are all very unstable, from the volatile nature of ammonia, which causes it to escape from its compounds. Besides, ammonia and nitrate of ammonia are solvents of oxide of silver, and generally ammonia forms complex and unstable compounds in the nitrate bath.

Sometimes the bath fogs the plate and is nevertheless acid;—and it commonly happens that a new bath fogs and works badly. When a bath is in this state it requires energetic treatment.

1st. Expose it to sunshine for a day or two, with a piece of muslin tied over the neck of the bottle. This will precipitate most of the organic matter in combination with sub-oxide of silver. Then filter the bath without disturbing the precipitate, add a little nitric acid, boil it down in an evaporating dish on a sand bath, and recrystallize it. The crystals of nitrate of silver may be mixed with crystals of nitrate of potass or other salts, but impurities are removed by crystallization, and unless these salts exist in great excess they may be harmless. Redissolve the crystals in pure distilled water, and try the bath again.

2nd. Throw down all the silver in the bath as a brown oxide by adding liquor potassæ to it. Wash the oxide in several waters, dry it, and roast it in a crucible. In this way organic matter will be burnt off and the oxide reduced to sub oxide or metallic silver. Re-dissolve it in nitric acid, evaporate and crystallize.

3rd. Throw down all the silver as a yellow carbonate by adding carbonate of soda to the bath. Wash it well in several waters, roast it in a crucible as before, re-dissolve it with nitric acid, evaporate and crystallize.

Should these plans fail, throw the silver down with salt as chloride, and send it to the refiners, (Messrs. Johnson, of Hatton Garden), who will give pure silver in exchange for it, making of course a fair deduction for their trouble.

We advise photographers to make their own nitrate of silver for the negative bath. The plan is to obtain pure silver from the refiners, pure nitric acid from a respectable chemist, and to make their own distilled water with a large glass retort, and a Liebig's condenser. Then they will know it cannot contain lead or organic matters. All that now remains is to dissolve the silver in the nitric acid. This is done by adding to it a sufficient quantity of nitric acid, diluted with three parts of water; it is of no consequence if the diluted acid be in excess. It must be done out of doors or under a chimney, as suffocating fumes are given off. The water is necessary in order to oxidize the silver. When the metal is dissolved the solution must be evaporated and crystalised; or if it be thought desirable to drive off the whole of the free nitric acid the crystals may be fused; but this renders them alkaline, probably because a little oxide of silver is formed and held in combination with the nitrate; the remedy is acetic acid. A bath thus made is pretty sure to act well at first. In cases where a bath acts badly at first, either the nitrate of silver, or the distilled water, or both, must be in fault.

Distilled water, so called, is frequently nothing but filtered rain water, which has been collected in leaden tanks, and holds oxide of lead in solution, besides other impurities. The lead may be detected by *pure* sulphuric acid, which renders the water cloudy.

PHOTOGRAPHS ON CANVAS.

BY MAURICE SANCIER.

The following process is the result of considerable study and numerous trials. In my hands it has proved everything that could be reasonably desired; the impressions produced by it being scarcely inferior to those on paper. No one should fail of obtaining all the perfection required by the oil painter. The process is especially suitable for the Megascopic camera.

Preparation of the Canvas. I use the ordinary canvas as manufactured for Artists' use. To render it suitable for receiving the sensitive surface, I wash it with a solution of cyanide of potassium and caustic potash, as follows:

Water, - - - - - - -	1 Pint.
Cyanide of potassium, - - - -	½ oz.
Caustic potash - - - - - -	1 Drachm.

The solution is applied by a tuft of cotton, scouring the surface and rubbing it in. This operation may occupy five minutes. Every trace of the alkali is now to be carefully washed away with clean water; finally with alcohol. When thoroughly dry the canvas is ready for

THE IODIZING. For the iodizing, prepare the following solution:

White of eggs - - - - -	1 oz.
Water - - - - - -	2 "
Iodide of potassium - - - -	40 grs.
Honey - - - - - -	½ drachm.

The above mixture is made in a suitable vessel of earthenware or porcelain. It is to be well beaten or whipped precisely in the manner of preparing albumen solutions for other processes. The froth is allowed to settle at least six hours when the clear liquid is decanted for use. The solution is now spread on the canvas as evenly as possible by means of a soft flat brush. To render the surface still more uniform, pour on the remaining solution and cause it to flow on every part; allow it to drain from one corner; finally hang it up in some dry and warm place entirely secluded from dust. The drying will require at least twenty four hours. In this state it may be kept any length of time.

SENSITISING. I use a solution composed as follows:

Water - - - - - -	20 ozs.
Nitrate of silver - - - -	1 "
Glacial acetic acid - - - -	1 "
Iodide of potassium - - - -	1 gr.

Filter for use. The solution is spread on the canvas by means of a tuft of cotton, as in the common method of silvering paper. The canvas is exposed wet.

EXPOSURE. Canvas requires a somewhat longer exposure than paper. The operator after a little experience will determine the time with sufficient accuracy. The exposure is long enough when the deepest shadows just begin to show themselves. This can readily be seen by interposing a ground glass between the lens and the screen.

DEVELOPING. The developer is simply a saturated solution of gallic acid in water, to which a little nitrate of silver solution may be added.

FIXING, WASHING AND VARNISHING. The fixing bath is a strong solution of hyposulphite of soda. The final washing should be very thorough. The picture should at last be varnished with some oil varnish, when it is ready for the painter. Some will prefer to omit the varnish.

THE STEREOSCOPE.

BY THE EDITOR.

The word Stereoscope is derived from two Greek words which signify "I see solid." The stereoscope instrument is a contrivance by which two pictures may be so viewed that the objects in them appear to be solid. The deception is so perfect, that a person who has never heard of the instrument, on its first use, will be persuaded with difficulty that he is looking only at pictures.

Man's inventions are only imitations of Nature; all of our devices, which we esteem ingenious, have been anticipated. We discover what was hidden only to us. Novelties are only novelties to us. We find out what has always existed. We create nothing. Observation of the grand operations of Nature may teach us all arts and sciences. If we have an end in view, we may often, with profit, forget the works of men, and enquire how such a thing has been done from the foundation of the world.

Let the problem be to construct a Stereoscope.

Solid objects appear different from pictures; we are never deceived. A picture of a book may be a perfect imitation of a book, as to drawing and color, yet we always see it only as a picture on a flat surface. The view of a real book has another element that cannot be represented in the single picture. What is it? We have two eyes, which all know have parts corresponding to the lenses and focus glass of the camera. When we look at a book, an image of it is formed in each eye. But why two eyes and two images to see one object? Suppose we place before us the book and an accurate picture of the book. If we could examine the interior of the eyes, we should find, on looking at the real book, that the images in the two eyes are somewhat different, while, on looking at the picture, the images are precisely the same. This is what might be expected, for the right eye being nearer the right side of the book, would see more of it, while the left eye would see more of the left; there are parts seen by the right eye which are invisible to the left. We learn from this, that in viewing any solid object, the images of it in the two eyes are different. This, then, is the condition and the philosophy of the idea of solidity which vision gives. Our problem is almost solved.

Two different pictures of the same object are required; one representing the object as the right eye would see it, the other as the left eye would see it. By photography and the camera obscura, (the artificial eye), these pictures are easily made. But, on placing them before the eyes, simply two pictures are seen by both eyes. It is necessary that each eye should only see the picture corresponding to it. Then place a screen between the pictures. Still simply two pictures are visible; one thing more is wanting. The direction of the rays coming into the eyes to form the images, must be changed so as to enter as if coming from a single object. The direction of rays of light is easily changed by mirrors or lenses, by well-known optical laws—and the problem is solved. Such was the reasoning of the inventor of the Stereoscope.

Now, let it be understood that the notion of solidity which the stereoscope view gives, is due solely to the difference between the two pictures; if there is no visible difference, there can be no stereoscopic effect.

The pupil of the eyes is about one quarter of an inch in diameter; the eyes themselves are two and a-half inches apart. It is therefore evident, that if two views of the same object are taken by a camera, with a one-quarter inch stop, at stations two and a half inches apart, the views will accurately correspond in drawing with the retina images. Will such views be suited always for the Stereoscope? Sir David Brewster and a few others, say: yea. But, with the majority, I say emphatically: nay. Sir David argues, that only such views more closely represent nature as we see her—any others are caricatures.

The object of the Stereoscope is to represent things solid; if this is not accomplished, it is useless. In viewing a distant landscape, there is no perceptible difference in the eye images. To make pictures of such an object, suitable for the Stereoscope, it is absolutely necessary that the camera stations should be more than two and a-half inches apart. Otherwise, the two pictures are no better than one, and convey no other impression than one. There must be a visible difference between the two pictures, and the camera stations must be so taken as to give that difference. All practical stereoscope makers follow this rule; pictures to be sold can be made in no other way. How great this difference should be is a matter of judgement and taste. Exaggerations either way are common. No positive rules can be given.

EN ROUTE.

PEORIA, Sept 26.

I wish I had a stereoscope camera with me to take some of the beautiful views that have passed in panoramic scenes over my traveling eyesight; but I have'nt, and more's the pity, since you New Yorkers seem to confine your products to likenesses of Niagara, High Bridge and other well known objects, which persons, with photographic tastes, are likely to know; why the dickens don't they give them views of scenes they don't know and have never heard of? that is what they require; there are numberless such scenes in our vast country; Uncle Sam presides over thousands of the most beautiful spots that nature ever blessed mankind with, and the artist is a patriot who presents them to his fellow citizens.

The foreign views I have so often admired are well worthy the purchase, but we surely want our own to mix with them; and our European cousins would be glad of the exchange.

One of your contributors, some few numbers back, called the attention of your readers to improved styles of cases.

I will touch on the same subject, but in a very different manner; my attention has often been drawn to it, and I forward it to you. I refer to the utter want of taste of some of our manufacturers and dealers—I will not say all, for some one's modesty would be shocked did I state what house systematically avoided the error—the utter want of taste and judgement in placing the same design on every style and quality of case.

When a customer is shown a case of the best leather, lined with fine silk velvet, alongside of another case with this same embossment, covered with paper and lined with cotton velvet, he is not so apt to realize the actual difference in the value, because the similarity of design is the strongest fact fixed in his mind, he is likely to be led into analysis, and think it is only a bit of gilding or of silk velvet, and ought not to cost so much more. If the seller would make it a rule to assort the cases sent to distant customers, that the same design did not appear on cases of different quality, but that the common case should appear throughout different to the designs on the leather cases, and the silk velvet should be different to the cotton, this would enable his customer to get better prices for the best qualities and give better satisfaction. What dry goods clerk but knows the same pattern on silk, appearing on cotton, would instantly stop the sale of the former?

I came across a copy of a very talented contemporary of yours, wherein he cautions the profession to beware of counterfeits of his metalic varnish; he says dealers are in the habit of turning out his valuable attenuated French Copal from the interior of his mysterious Black Bottles, and putting therein a counterfeit,—certainly nothing worse than attenuated French Copal, and particularly mentions some "d—d dutchman;" did you ever hear of more supreme impudence? who would take the trouble to throw out river water to put river water in its place? If men are green enough not to know that putting into an obscured bottle that which is most exposed to the ligtht when used is not inended for a humbug, it is no reason they are to be kept in that condition by such a worn-out trick as the cry of counterfeiters. A nice dodge truly to sneak out of a poor article.

By the way, if the stuff is really made of gold, there is a good chance for you to make some cash. Now, reason: brass is very much like gold in color, when reduced to so very fine a film, and there certainly cannot be much color left if the whites of the pictures are expected to show through, without injury, then why not make a "Collodion brassing," it would cost so much less, and could be sold so much cheaper; only fancy tons of brass going into your establishment for manufacturing into contents for mysterious black bottles, in place of the tons of pure gold into the establishment of your competitor. Whew! what good things might be bought with the profits; Moses, how my mouth waters with envy!

Send me all the foreign journals, as I wish to be posted in the movements in the art on the other side, as well as on this side, of Jordan. Gossip.

DISORDERED BATHS.

C. A. Seely, Esq., Dear Sir: Your process of exposing a foggy collodion bath to the direct rays of the sun, is certainly a very ingenious and very good remedy, and often gives a bath working *quicker* than before; but I think it has the great inconvenience of requiring two, three days, and sometimes more, to have the bath in good order. There is, however, a chemical way to obtain the same results in one or two hours. You know, sir, that I do not intend here to criticise your very good process, and if I send you another one, it is because I know how desirous you are to make the readers of the American

Journal acquainted with every useful process. Now, if you have a foggy bath, try this : Neutralize the bath with carbonate of soda, and filter it; then warm it till ebullition, after having added some filings of cadmium, and when it has become cold, filter again. It is true, some nitrate of silver is precipitated to the metallic state, by exchange of base with the metals, but as the amount of cadmium must not exceed 25 grains to every pint of bath, its strength is not enough diminished to make any sensible effect. You will remark that, as well as in your process, the bath thus modified. always gives that superficial reduction called veils of collodion, and consequently needs the addition of a few drops of acetic acid. I give also to this process another application. The acetate and other very reducible salts of silver, in presence of organic matters, and principally the sugars whose use has been introduced in this country about two years, determinate in time a complete deterioration of the bath, with the following characters: the image is always as rapidly formed, but without any vigor, and remains gray in all its parts, with the exception of the strongest lights, which alone take some intensity, and appear of a black blue coloration, without any real opacity, neither can the addition of an acid, nor the neutralisation remedy these defects, and only a treatment by cadmium, (copper and zinc answer as well,) will bring back such a bath to good condition.

I shall recommend the same process, as a remedy for new baths, giving gray and weak negatives, and for discoloring the aceto-nitrate baths, (without previous neutralisation,) or any solution of silver used in photography.

Very truly yours,

P. C. Duchochois.

EDITORIAL MISCELLANY.

——The Fair of the American Institute, recently opened, promises to be of the usual interest, excepting the department of Photography. The display of photographs is less than one-fourth as large as that of last year; also, the very few plain photographs, ambrotypes and daguerreotypes, are almost obscured, being in the shadow of gorgeous gilt frames, and brilliant paintings. We trust another year photographers will be more ambitious to show the exact capacities of our art, without the sophistication of paint and india ink. Painting and photography are two things, and in a photographic exhibition, paint should take a subsidiary rank.

The first-class galleries of New York are all represented, with the exception of Brady's.

———At a hasty visit made a few days since, we were most pleased with a series of five pictures, by Mr. T. Farris, symbolising the five senses. These pictures are especially noteworthy, for the reason that successful artistic composition photographs are rare. The following versus will convey a very good idea of the attitudes and action of the characters (two very pretty little girls,) in the different scenes.

"There the keen SIGHT that grasps the highest star,
In playful mood seeks telescopic aid,
To draw some pleasing object from afar,
Oor pierce the dimness of the distant shade.

Now to her ear she holds the sea-born shell,
Still vocal with the murmur of the wave,
And HEARS its voice in solemn cadence tell
The wondrous secrets of the Mermaid's cave.

The flowers, sweet children of the smiling sun,
All feelings please, but chiefly give delight
To that quick sense whose throbbing fibres run
Midway betwixt the gates of Taste and Sight.

To try the sense of TASTE, the maid displays
The fatal fruit which tempted Eve of old;
There's appetite apparent in the gaze
The sister throws upon the globe of gold.

And FEELING finds a sharp electric thrill,
When the warm hand upon the boreal ice
Unwitting falls. So shrink from every ill,
And shun instinctive every touch of vice."

Maurice Sancier exhibits a fine collection of photograph views from dry collodion. Mr. Sancier, we believe, is the first in the field, and demonstrates that he has a useful process. His pictures compare favorably with the landscapes of others, made by the ordinary methods.

In the apparatus department, we noticed Becker's Panoramic Stereoscope and Stock's patent Camera Shields.

———Mr. E. K. Hough writes us as follows:

"In the short article, entitled 'Photo-Kaleidoscopes,' published in the last number of your journal, there was a typographical error, which materially changes the idea intended to be conveyed.

In the introduction, for 'self-fancyfulness,' read "self-forgetfulness."

It is 'self-fancyfulness,'—i.e. self conceit—that now before the sensitive tablet draws the lines of so many faces into smirks and vapid smiles, or grotesque attempts at dignity.

My meaning was that the most truthful and pleasing expressions are worn when the mind is more or less disengaged, from personal considerations, and occupied with pleasing contemplations and active thoughts."

THE AMERICAN

Journal of Photography.

[NEW SERIES.]

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LAKE PRICE'S PHOTOGRAPHY.

[We extract the following from a recent English work on Photography. The author is evidently a scholar as well as artist. The literary merit of the book is especially worthy of praise —ED.]

The feelings of curiosity and astonishment with which the discovery of Photography and its earlier productions were regarded, have now sobered down by our intimate and daily acquaintance with its results in some one or other of the numerous directions in which its powers are applied.

Still the very fact that it has become a commonplace, proves its extreme popularity; and the most indifferent of the pictures of its followers is not without its value in the diffusion of knowledge, the creation of a feeling for Art, and an increased appreciation of the infinite wonders and beauties of Nature, in individuals who, without the facilities which it has given, would probably have remained entirely strangers to such enjoyments.

In a multiplicity of ways, Photography has already added, and will increasingly tend to contribute, to the knowledge and happiness of mankind: by its means the aspects of our globe, from the tropics to the poles,—its inhabitants, from the dusky Nubian to the pale Esquimaux, its productions, animal and vegetable, the aspect of its cities, the outline of its mountains, will be made familiar to us.

The traces of those generations long ages ago passed from its surface, who, with the inherent feeling of our kind, have striven to leave to a dim posterity, by their gigantic but decaying efforts, some relic and memento of their passage; all have been or will be brought in intense reality to our very hearths.

Nay, passing even beyond in its career, already have the appearances of the firmament, the minutiæ of the planets, and of our satellite, been noted with unerring accuracy; the mysterious currents of electricity, and the movements of our atmosphere, are by its means exactly registered; the marvels disclosed by the microscope are faultlessly delineated, and in these, as in all directions, we cannot put limits to its scope and powers.

The antiquary and architect are indebted to it for such faithful images of the objects of their pursuit and study as they have never previously seen,—the mechanist and the engineer may take their compasses and measure the parts of each viaduct, engine, or bastion, which nature's drawing has laid down to scale for them. The artist and the dilettante have seen and will see transcripts of the distant and scattered masterpieces of Raffaelle and Titian, of Velasquez and Murillo, brought together and united for near comparison in their folios; not as mere diluted translations by the hands of others, but with their own touch, feeling, and power.

The emigrant and traveller, far from their early home, send mementos from distant climes, of halts under sultry skies, in which, surrounded by strange, swarthy figures, and shaded by the luxuriant vegetation of the tropics, the elephant and camel browsing beside them; those dear to them in distant England see the familiar face from which they may be long separated. Amidst the icy barriers which have been placed to guard the hidden mysteries of the Poles, those who have had the daring to endeavor to penetrate their awful solitudes have made use of Photography to bring away the impress of them.

From Australian cabin, from Canadian log-hut, come images of faces born on that distant soil, akin in blood, yet strangers to those at home who bear their name,—even the humble artisan and lowly cotter, heretofore deprived from indulgence in such natural feelings, may see the mementos of those who are, or have been, dear to them, upon the walls of their modest dwellings.

Posterity, by the agency of Photography, will view the faithful image of our times; the future student, in turning the page of history, may at the same time look on the very skin into the very eyes, of those, long since mouldered to dust, whose lives and deeds he traces in the text.

As this art progresses to perfection, each impressive public ceremonial will be registered and delineated; nay, even the very turmoil of the battle or siege and their varying aspects will be instantly fixed and transferred, with the actors, to the page of history, by an art to which the delineation of thousands of figures or of a blank paper present equal facilities of execution.

The foregoing are some of the benefits which Photography will confer on art, on science, and mankind, when arrived at its more mature developement; and when we reflect how much has been done in the few years which have elapsed since its discovery we need not despair of further surprising advances; for we must not at all consider that it has attained the limits of its perfection. Much yet remains to be done by all interested in its advancement, and it is to be hoped that their efforts will, in their several departments, be successful.

To the natural philosopher we must turn for new discoveries in those mysterious combinations of LIGHT, HEAT, and ELECTRICITY, which may advance our knowledge of their united action, and possibly will result in giving us not only form, but color, in the picture. To the mathematician and optician, we look for lenses, in the performance of which the operator may not feel himself fettered and his picture limited in size; or if he increase its dimensions, that want of intensity, weakness of definition, distortion in the proportions of the figure, and shallowness of the focal depth, may not result,—qualities in which, at present, more perfection is greatly needed, and which advances , if successfully accomplished, will raise the character of the instrument, and enable it to fulfil completely and satisfactorily the uses for which it is intended. To the chemist for those improvements or new combinations in the materials used in the process, which shall considerably abbreviate the time necessary for the production of the image. And, finally, to the artist, for that judicious selection and arrangement, whatever his materials may be—for everything in nature, even to the smallest weed, has beauties and capabilities—that the pictures we shall see may show marks of reflection and intelligence, and conformity to those rules of art, in the composition of their lines, and effect of their light and shade, which will cause them to be looked upon with the respect and interest the exquisite beauty of Nature's own drawing should inspire, when not marred by the unskilful translation or promiscuous selection of her votaries.

ELECTRICITY AND PHOTOGRAPHY.

BY P. C. VANDERWEYDE, M. D.

I learn from the foreign journals, that experiments are extensively made to produce photographs by means of carbon, in the place of silver.

On hearing about this process for the first time, the idea struck me that, as in 1790, *Galvani* had discovered the kind of electricity bearing his name, and *Volta* had invented the column, also bearing his name, silver was considered the best, but also the most expensive material; however, copper could be used, and was used almost everywhere, till Bunsen discovered, about 1840, that carbon was at least as good, if not better, than anything else.

If we now consider that silver or carbon in the galvanic battery, are the electro-negative elements (zinc being usually the positive,) and that the reason why carbon may be substituted is, that their chemical affinity in the battery is the same, so I was struck with a singular similiarity in the case of photography. Twenty years after the possibility of photography on silver had been discovered, the carbon takes its turn as a substitute for the expensive silver, just as it did in the galvanic battery fifty years after the discovery of galvanism.

In the galvanic battery, *silver* or *carbon* are the negative elements, and in photography we can consider them so; in the galvanic battery they collect the electricity developed by the action of the acids on the zinc, (with or without mercury;) in photography they form the picture developed by the action of the light on the iodide, (also, with or without mercury.)

In some galvanic batteries the zinc may be amalgamated with mercury, even so in Daguerre's process, the silver is amalgamated with mercurial vapor, and in the collodion process, strengthened by bi-chloride of mercury.

However, as far as the carbon process is developed for the present, we must confess that carbon does not exactly form a substitute for the silver,—that means that no iodides, bromides, or chlorides of carbon are used as sensitive to light; in chemistry, not much is known till the present of the two first compounds; the last, chloride of carbon, cannot be directly produced, as carbon does not unite directly with chlorine; but when chlorine is made to act on certain organic compounds, which are decomposed by it, the carbon being presented to it in the nascent state, combines with the chlorine. There are several chlorides of carbon: 1st, bichloride of carbon, a white, solid, fusible and combustible body; 2d, proto-chloride of carbon, a liquid boiling at 160°; 3d, perchloride of carbon, a very fusible solid, boiling at 300°, combustible; none of these compounds were considered by chemists to possess any practical intent till the present time.

It may be interesting to investigate the properties of the iodide and bromide of carbon, and their adaptability to photographic purposes; that they may be sensitive to light in some way or other, may be concluded by analogy, as hydrogen in many respects similar in chemical affinity to the carbon, forms compounds with chlorine, iodine and bromine, exceedingly sensitive to light; chlorine and hydrogen mixed in the dark, unite with terrific explosion as soon as the least ray of sunlight strikes it—this is an old and well-known experiment.

Daguerre made already the observation, that silver plated on copper, was more sensitive than a single silver plate, and he attributed this to some electro-chemical action; later, it was found that silver precipitated on a copper plate, from a solution of a silver salt, by means of a galvanic battery, was much more sensitive than that prepared in the usual way, by stretching out large masses by means of machinery, and it is usually explained by saying that the silver is chemically purer, and for that reason more sensitive; this is, undoubtedly, true, but also it is certain that the molecular arrangement of the silver atoms, as it is obtained by means of precipitating by the galvanic battery, if undisturbed by the usual operations of plating by machinery, must produce a surface of a different kind, more fit to receive the impressions of the active rays of light, than common silver, where the molecular arrangement has been disturbed by the manipulations of the manufacturing process.

Even as in the galvanic battery, copper has been substituted for silver, so has it been done in the daguerreotype process. As these processes are almost unknown in this country, I will in another article describe them.

All that seems to have been done till the present with the carbon in photography, appears to be to have it finely, mechanically divided. and mixed in a solution of some salt that loses its solubility by the influence of light, and will retain the carbon, therefore, in its impressed parts, and will not retain the carbon where it has not received luminous impressions, by being immersed in a liquid to redissolve the salt.

I wish to give the above only as a sample of the immense field yet to explore in photographic investigation; such considerations make us confident that this beautiful art, notwithstanding its wonderful and charming products, has not by any means attained its full developement, and no wonder—it is not quite twenty years old. What will be added by the next twenty years? And what will photography be among posterity after two hundred years? No human mind can possibly form the faintest conception about its sublimity at that, for us, so remote a period.

New York, Sept. 15, 1858.

NOW AND THEN.

BY H. GARBANATI.

NOW. Everybody must have one or more productions of the camera, mementoes of one's self and one's friends; the largest mansion and smallest cottage, and the various subdivisions of barrack houses, must be decorated with photographic portraits; they have become as much a household necessity as chairs or tables. People would as soon think of wearing homespun in a city as be without a specimen of Daguerre's art.

And people are becoming critical, almost hyper-critical, not necessarily from pure taste, but because good pictures are the rule, compared with the past, they require perfect detail; a gradual and imperceptible growth of likeness; a perfect gradation of shade, and all the constituents of rotundity, light and shade, foreshortening, &c., as if, forsooth, they were artists by nature: but no, they are charged to repletion, with good and artistic effects, and will not tolerate anything common. Now—life-like pictures are turned out by the million, and expensively colored, and framed photographs by the thousand. People of moderate means decorate their walls with thirty or fifty dollar portraits. and amuse themselves with quarterly or annual proofs of the march of time, as depicted on their frontispieces.

Photography is decidedly in demand. Does the artist wish to copy an elaborate picture, the camera saves him a deal of labor; he gets the grouping and composition to depict at his leisure; the coloring requires fewer journeys, should the original not be comeatable. Does he wish to enlarge and paint from a faded daguerreotype, the megascopic gives the size and outline.

Does an architect desire a drawing of some building that excites his admiration, what does it so perfectly, so cheaply, and so rapidly, as the camera? He need not mistake perspective from inaccurate drawing.

Does an inventor wish a patent, who can make his drawing for the great building at Washington so rapidly and truly as the photographic artist? Does a merchant wish to send a design of some new ware, a stove, plough, or sewing machine, can his distant customers think he has added extra ornaments for effect when the camera has taken its likeness?

Does any one wish to get up a limited number—some hundred or two—of a very fine engraving, the cost would be enormous; the expense of the plate distributed over so few copies would prevent the sale; but a photographic plate would be a mere fraction of cost. Who would have an engraving of his house, however splendid, to distribute among his friends, when the cost of the plate would be thousands of dollars, and months would be required for its work; the notion would fade out, friends would be scattered, the thing would be stale.

Photography opens new fields of labor and accelerates old; it improves taste, and roots out distortion; it gratifies the desires of the poor with likenesses of those dear, and discards the caricatures, called likenesses, by the numerous family of Vandaub. Photography is a great art, and the present generation fails not to avail itself of its beauties and advantages.

THEN. Some twenty years ago, when Daguerre first whispered his secret, people were content—with few exceptions—with brick-colored, stiff-lined and passionless paintings on canvas, which the owner, and immediate friends, not forgetting the artist, fancied contained the most striking likeness of the person who sat for it; many hours, and many times per day, of laborious attitudinizing were they content to go through to obtain the superexcellent production; every family of respectability must needs have its heads hung on the walls, for the inspection and admiration of coming generations, who had in due succession been informed the degree of consanguinity the original of the said picture held to themselves, and very queer notions of the characters of the said originals must have been conceived, did the pictures give a true likeness.

As for the multitude, and persons of moderate means, they must needs be content with what they could get, if 'twere called a picture; Talk of undergoing an operation to obtain a likeness, did they not have to be shaved with a stick passing along the profile, tapering off at an angle to the required size, and the product, an excellent black outline, no lights or shades,—mounted on a white ground, and all for two shillings, without frame; another shilling would get some streaks of bronze, making everybody look like a military officer. The cutting out of a profile with a pair of scissors, without the aid of a scraper, was quite a feat, and numbers of those records of the past, profiles from crown to sole, that might pass for any body with ordinary features, are yet extant. In those days hundreds of pounds were paid in England for a picture the size of our sixth, yet not the ablest miniature painter that ever touched ivory, could equal the fine gradations of light and shade, nor begin to match the details of a dollar daguerreotype, or ordinary fine photograph, the finished appearance of the human hand, as produced by the camera, is a work of art painters have yet to attain.

Had a fine specimen of camera work been twenty years ago quietly exhibited in a fine arts exhibition, the producer would have been looked on as one of the wonders of the age, his work as almost super-human, whilst a stereoscope and picture would have driven the *quid nuncs* nearly mad. Nor is it only in photography, the presentiment art has so rapidly advanced; coarse pictures of soldiers and sailors, with all sorts of misplaced colors, and unnatural complexions, are utterly banished; the religious subject, used only by the most illiterate, alone remaining as a memento of past distortion, and tasteless art. The pictures and coloring of the "London Illustrated News," wonders of cheapness, are quite works of art, compared with the mass of prints that decorated the walls then, yet how few think them worth framing. Statuary has taken quite as high and rapid a flight as painting and engraving; the really artistic models and groups, sold in the streets for a few cents, are as superior to the cats and dogs that used to be sold in a similiar way for a similiar purpose, as gold is to dross. Yet, after all, the most remarkable thought is, that amidst our most wonderful improvements in the majority of productions in pictures and statuary, in the high works of art, outside the camera productions, we have not advanced one step beyond our predecessors, even though it can be proved we have kept pace. Nevertheless, the millions have more appreciation, and demand better works, and there is our glory.

A NEW AND BEAUTIFUL PICTURE.

BY J. MILTON SANDERS, LL.D.

The time is quite vividly within our recollection, when, if a photographer should chance to take a picture which could be discerned without the aid of spectacles, and which could be distinguished by the sitter's friends as a correct likeness, that the aforesaid artist felt complaisant beyond the power of language to describe.

But those good old days of artistic contentment have gone by. Science with the rapid strides characteristic of this restless age, has extended its magic wand to photography equally as it has to chemistry. The beautiful and greatly admired picture of yesterday is neglected in the admiration bestowed upon the still more lovely creation of to-day; and to-morrow the gem of to-day will lie neglected upon the shelf. Not content with the delineations which chemistry alone has made with the lights and shadows thrown upon "the human face divine," the photographic artist must needs avail himself of the masterly touches which result from the inspirations of the artist in color; and now the Apelles and Raphaels of the day are called upon to add those delicate touches which chemistry has, so far, refused to supply.

It was but a brief period ago that the plain daguerreotype and ambrotype were very satisfactory to the most fastidious sitter.

But this taste has yielded to another, where the gorgeous and perhaps more artistic " Heliograph " and " Diaphaneotype" have usurped their more quakerish, though none the less beautiful rivals.

As colored pictures now appear to have the day, we propose to give the reader of this journal some plain directions for the production of a species of pictures which we think will surpass any other yet patented or unpatented, for faithfulness and delicacy of detail, beauty, and truthfulness of coloring.

But as every new discovery now-a-days must necessarily have some *taking* name, wherefore should not ours? It is surely worth a patronymic, and such an one too as would attract the unbounded admiration of all the groundlings. Suppose we style our picture the DUROTYPE, from the latin word *duro*, to last? If any other title would suit you better, then adopt it, for our rose will smell just as sweet by any other name.

Before we proceed any further, permit us to assure the reader that it was not alone to our own individual exertions that this picture is due. We frankly confess that to the exertions of our friend CHARLES A. SEELY, ESQ, the editor of this journal, are due most which is meritorious in this picture, and therefore we lay claim to nothing but the honor of this exposition.

In preparing this picture for the coloring, place before your camera a common negative on glass. Allow the rays of light transmitted through this negative, to fall upon a sensitive collodion surface on glass, and thus you get a positive upon it, with of course the light and shades reversed. When this picture is partially dry, or sufficiently so to become what might be termed damp, then pour over it some common spirit-varnish, to which a little acetic acid has been added. Quickly drain this off, and when it has dried sufficiently to become "tacky," lay carefully upon it a piece of paper slightly dampened. With a piece of cotton, press this paper down until every portion of it comes in contact with the varnish, and a perfect adherence has taken place. Now allow the paper to dry, when by careful management, the paper can be lifted off the glass, and thus you have a transference of the collodion upon the paper. Now render this paper transparent,—or rather translucent,—by the use of Canada balsam dissolved in spirits of turpentine. Allow this to dry, when the picture is ready for coloring. This latter process is the simplest of all things, and can be done by the merest tyro. All that is necessary is to color the picture upon the back with common oil-paints such as are used by artists, placing upon the face of course the proper flesh color, &c. It would be superfluous to mention that the shades are those belonging to the photograph, and that they exhibit themselves in all the delicacy and detail characteristic of the ambrotype. This picture, in fact, resembles closely those very fine and elaborate minatures, done in oil, by the first class Parisian artists, except that it is superior to any painting done by man, in all that is delicate and beautiful and perfect.

The artist, if he fail at the first effort, must not get disheartened but try again, for the beauty of the picture and its simplicity of coloring, will fully reward him for all the trouble he may go to in "getting the hang" of its production. Pictures are already made somewhat in the style of the above, but they are prepared from a "raised" photograph upon paper, and are comparatively rough productions, although to those who have not seen the picture just described, they look very beautiful.

The painting of these pictures requires but little or no artistic skill. All that is necessary is to stretch the paper upon a frame. This frame should be fixed to move upon pivots, so that the picture can be readily turned around. By this contrivance the picture can be turned to and fro, and thus can be readily examined upon either side as the painting progresses.

As we said before, all that is necessary, is to place the requisite color upon the back, the shades being formed by the photograph itself. This can be done by any person possessed of the least eye for color or pretension to taste, for the most experienced artist can do no more than that. Remember, in conclusion, that a little perseverance here, like it does in all things else, will result in success, and that it only requires a few trials to produce perfect pictures.

New York, October, 1858.

ART AND ARTISTS.

BY E. K. HOUGH.

The art of Photography with its twenty thousand operators in the United States alone may well be considered a "fixed fact," and its importance in general society may be judged when we reflect that we should be but little more surprised on entering a town of two thousand inhabitants, not to find a church than not to find a daguerrean room.

But before we enter these rooms, we will consider "what manner of men" we may expect to find presiding.

And first, what order of talent is needed to practice the art of photography successfully and develope its best resources?

Evidently similar to that required to fill any department of representative art—not creative art, for that demands a yet higher order of intellect.

Landscape painting and portraiture are the principal divisions of representative art, and those who are successful in them are dignified with the distinctive name of Artists.

To be an artist, it is necessary to have a quick perception of beauty and the ability to discover and retain it in the representation of every form and mood of natures' handiwork.

To be a true photographic artist differs from being an artist as a painter, only in the different means employed to produce the same result the faithful representation of natural forms. The painter uses pencils, brushes, and various coloring materials, with oils and varnishes to give tones and textures.

The photographer uses his camera and chemicals, and in each department the capability of these means to be varied, in combinations for the production of given effects is almost infinite. Photography may be practiced to a certain extent mechanically, but that which requires ever active artistic skill and taste, is—in portraiture arrangement of position, either singly or in groups, and the proper distribution of light and shadow; in landscape, choice of the point of view that shall bring the most prominent objects in their best relative position for effect and perspective, and the quantity and direction of light giving greater or less breadth and depth of shadow as best suited to the character of the scenery. But beauty is not confined to form, color also has its influence, and although everything else be artistically produced if the color is not pleasing as a picture, it is a failure as a work of art. The colors and tones in photographic pictures depend upon the kind and quality of chemicals used, and the conditions under which they are combined and employed.

So that to be fully successful the photographer requires to be a scientific chemist, at least so far as a knowledge of the chemical nature of the material he uses and of the laws that regulate their combinations.

In view of these truths, it would be natural to expect that most of the practitioners of this beautiful art are educated men, having a noble pride in their profession and a constant determination to be equal to its requirements. And it is indeed astonishing to find the majority of them illiterate men, gathered from the second and third rate classes of all trades and professions; men who have so little pride or interest in the art, that they will openly and shamelessly avow that they do not care a fig for it beyond the dollars they can draw from the peoples' pockets by its aid; men who have no knowledge of chemistry as a science, and are so little acquainted with chemical terms, that not half of them would know that the "chloride of sodium" in their formulæ meant simply common salt. A good representation of this class, now doing a paying business in a western city, recently told me in answer to a question that the nitrate of silver he liked best and generally used, was made by Mr. "Argent," whom he supposed to be a celebrated manufacturer somewhere, judging from the labels.

Now is it best to call things by their right names? And is a man who owns a camera and a quantity of chemicals, and stays during the day in a room having a skylight, an artist as a necessary consequence?

Is a man who "takes pictures" and places a face with an eagle eye and a royal roman nose in precisely the same position as the round red and fat face having as much legitimate expression as a puff-ball! is that man an artist?

Is the man whose pictures as they hang on his walls, all look straight at you—all sitting in the same "front face," "heads up" stiff-necked posture, all having the same arrangement of light full on the face, losing all the high lights in broad blank masses of white!—is he an artist?

If he is, so then is the man who paints an animal on the swinging sign of a country tavern, and writes under "this is a bear;" and so is the man who colors in black and white the long boards over the shop doors, that they may speak to passers-by, "Grocery Store, Families supplied here."

But hold! lest we be unjust. We must reflect that the photographic art is comparatively new, and that many of these men have entered it after terms of instruction varying from one week to three months, in which time they learned all that their instructors knew, and they should not be blamed for ignorance if they continually avail themseves of the best means for improvement, and show a constant desire to acquire a knowledge of the principles that govern the artistic and chemical departments of the art. Alas! that all important if. As a profession they utterly ignore all publications devoted to their interests, haughtily asserting that "they understand the business as well as they want to," challenging comparison of their pictures with any in the country in that self-complacent way that speaks louder than words "you'll have to go a good ways before you find better ones."

Yet, after a candid examination of these same boasted pictures, the only good qualities discernable are that they are smooth, white and free from specks. No artistic studies of position; no attempts at rendering individual character; no endeavors to express feeling or sentiment; no groupings that strive to portray hope, fear, grief, or love; no evidence of an intellectual and discriminating taste that endeavors to make each picture express an idea, or suggest a general or individual trait of mind or disposition.

No indeed! such things even in the first crude attempt are entirely beyond their conception of the capabilities of the art. And yet such men dare to say that they have no desire to improve, and that hints and suggestions from other minds would do them "no sort of good."

There are a few who have carried the art to a high pitch of excellence in this country and wrung acknowledgements of superiority from even European connoisseurs, but of the majority, my remarks are only too true.

But the day is not far distant when pictures from the camera will have as much beauty of grouping and intellectual expression as the best French and German engravings, or Grecian or Italian Basso Relievos, and then those who will not be artists must seek new fields for employment.

Chatauque Co, October, 1858.

PHOTOGRAPHY AND THE LAW.

HAS AN ARTIST A RIGHT TO EXHIBIT A PORTRAIT?

(New York Common Pleas.)

Jeremiah Gurney vs. *Elias Howe.*—This was an action by a professor of the art of photographic portrait painting to recover $750 for taking and painting an elaborate portrait in oil of the wife of the defendant. It appeared in evidence on the examination of the plaintiff, of his son, and of an artist in their employ named Meyer, that this portrait was ordered in the early part of last year, that it was to be a first-class full length picture in oil, with accessories to be chosen by the defendant or the lady. The photograph was taken and transferred to canvass, and Meyer was employed upon it for about eight weeks, the defendant occasionally calling to see it, and approving of the work. In the process of the picture he ordered a shawl to be purchased at Stewart's to be painted in the picture as one of the adjuncts, and told the artist he would immortalise himself by placing his name on the picture. After it was finished, the defendant inquired the price, and was told $750. He remarked "that was a big price." Subsequently the picture was offered to him, but he refused to received it, and the plaintiff exhibited the picture at the Crystal Palace Fair of last year.

On the part of the defence, it was set up that Mr. Howe was a patron of the fine arts and of the twin arts of daguerreotyping and photography, he having had portraits taken of himself, his son and his daughter by Mr. Gurney, which led to an order to paint a first-class, life-sized portrait of Mrs. Howe for $200. The work was undertaken, but was not completed to the satisfaction of the defendant, and the price demanded being enormous, he refused to take the work, and further the plaintiff had made it his own by sending it to a public exhibition. To sustain this defence, Mr. Fredericks was called as a witness, and he gave it as his opinion that the work was not well done, and that it was not a perfect likeness of the lady, and not worth, as a work of art, $200. The defendant himself was then put upon the stand, and he testified that he had ordered a first-class picture, not to exceed $200; that he had ordered the shawl and the frame, and expressed favorable opinions of the work while the artist Meyer was progressing with it, but when finished, he, the defendant, said it was not satisfactory, and refused to take it, neither did he desire or approve of the public exhibition of the portrait by the plaintiff. The defendant admitted that he had brought several friends to see the picture, and that they had pronounced favorable criticisms on the work, before it was finished. The Judge, in his charge, said there were two points in this case. First, was there an express contract to paint a first-class portrait for $200? If not, was there a general order or contract to paint the portrait? and then, had the plaintiff the right to make a public exhibition of it after it was refused by the defendant, the plaintiff thereby making the work his own? The jury retired at night, and in the morning brought in a sealed verdict for the plaintiff for $750 and the costs, being the full amount claimed.

"ACADEMIES."

The beautiful art of photography has often been perverted to the vilest purposes. Until recently there has been almost a licence for the production of anything which the corrupt heart of man could imagine. Under the name of 'Academies,' the most indecent and demoralizing pictures of infamy have been made, and almost publicly exhibited in this city. The arrest and punishment of the guilty parties are known to most of our readers; and in future it is to be hoped that fear of exposure, if no better motive will deter others from the same wickedness.

We translate from the "Revue Photographique" the following case which is similar in many respects to the recent trial in New York. It will surprise many to learn that French law is more severe than ours.

"Sieur Darnay, a photographer, twenty-seven years of age, residing at Bellvielle, rue du Solitaire, was arraigned before the Criminal Court, on the charge of outrage to public morality, and enticement to debauchery; Sieurs Fontaine assistant and Coanus painters, were, as well as five young women of whom the oldest was not eighteen. The complicity of the girls consisted in their having served as models for Darnay's photographs.

Sieur Darnay and his accomplices confessed all the facts charged against them. Darnay added that he did not sell his photographs in Paris, but in a few distant departments and in foreign countries, especially Spain.

The President. This declaration is far from extenuating the facts charged against you. Did you think by respecting Paris you could poison the rest of the world, with your pictures of the most shameful corruption. But this is not your only fault; you have committed a far greater, by bringing into your wicked business these girls, perverting them, exciting them to debauchery. Among these girls, for the most part only sixteen or seventeen years of age, there are some who belong to respectable families, upon whom you have brought a stain which cannot be effaced.

The court after having heard the defence presented by Baratin, Duet, Charles and Dubrenil, condemned Darnay to fifteen months imprisonment and a fine of fifty francs; Fontaine and Coanus to six months and sixteen francs fine, and the five girls each to one month imprisonment and a fine of sixteen francs."

EDITORIAL MISCELLANY.

——Since our last issue we have received No. 24 of *Photographic Notes*, alluded to on page 106. In compliance with our promise we cheerfully give place to the following, which with what we have reprinted on page 138, is believed to be all which has appeared in *Photographic Notes*, regarding tke rectifying nitrate solutions by exposure to light:

> "A curious circumstance occurred in the course of our experiments a few days since, with a new bath of Nitrate of Silver. This bath gave foggy, feeble negatives, although the collodion was particularly good, and worked well with the old bath in common use. The new bath was then put into a glass bottle, and exposed to sunshine for several hours. At first it turned slightly red, and then slightly black. During the night the solution cleared, and a black precipitate was formed at the bottom of the bottle.
>
> "On subsequent exposure to sunshine, no further discoloration of the bath took place, and it afterwards worked well, having been entirely cured by this simple treatment."

Respecting the above, it does not appear to us unfair to say, that it can hardly be called a publication of "the wonderful dodge;" it seems rather given only as a history of a curious fact, suggestive, indeed but without the application being made. Moreover, Mr. Sutton, to judge from his paper reprinted on page 137, seems even not yet to have *learned* the "wonderful dodge;" else how could he neglect the simple remedy, and recommend methods which are impracticable to photographers who are not chemists. Has Mr. Sutton made any tests of the value of the exposure to light?

——Mr. Edward Howell, of Ashtabula, is authorized to receive subscriptions for this Journal, and is provided with receipts signed by the publishers.

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ON BACK GROUNDS.

BY H. GARBANATI.

A good back ground has much to do with the obtainment of a good picture. Position and color must vary with circumstances: the same back ground will not suit every operating room, yet how many artists use it with perfect remorselessness, no matter how often they move, or what style of picture is required, or what sort of subject is the sitter; no gallery but ought to be provided with several back grounds, except there is a great depth beyond the light, when a less number will do.

It is probably as much a want of thought, as of judgment, that photographic artists generally, have given so little attention to the suitableness of different back grounds, to different circumstances; many will be very particular in obtaining a certain color, yet that color, however well chosen, will not suit every circumstance of the same light; how much less with some other lights.

In daguerreotype days, it was the general custom to use a dark back ground, which would form a contrast to either black or light clothing. A very excellent rule, but with too few exceptions.

There are many colors that will give a dark back ground in the camera, that are comparatively light, and others a light back ground, that are comparatively dark.

A buff, a light brown, or light red under a strong sky light will give light pictures, but set far back, will be as dark as needs be; therefor, with a light, having much distance behind, any one of them is an excellent color to obtain from dark to moderately light, but it would not do to trust the one color alone with the wall close up to the light;—circumstances might require a dark ground—nor would many shades giving a light tint under a strong light, do for a back ground with a side light, since the part most distant from the light would come up dark.

The choice of a tint for a side light, is more difficult than for a sky-light; a scenery back ground is sometimes tolerable, but has the disadvantage of rendering the picture somewhat flat, since it must needs be near the sitter to be in focus; the same objection may be had to a dark back ground, which seems to cut off the light suddenly, and prevents in some degree, that roundness that constitutes a fine picture.

A white one has somewhat the same effect by reflecting light on the back of the object; many artists, especially since the advent of the ambrotype, have adopted a white back ground, yet 'tis unnatural; what painter would sit his subject in the sun light, as a suitable position for taking a likeness? If he did, it would be quite unnatural to give a white face; yet, no photographic artist would dare give out a picture, especially of a fair person, with a dark face, even with a white back ground. Yet, in nature, such a back ground would give a face without shades.

Others, again, go to the other extreme; yet, what artist would set a subject in a chasm to paint his picture—it would not be deemed a favorable position, though some photographers give the effect of a chasm: Wherever there is light enough for nature to give a picture with lights and shades, there must be some light in the back ground also.

A good back ground ought to be of a neutral tint, ought to be selected as near as possible to give the idea of distance, be ethereal in effect, that the figure may stand out in bold relief; much of the stereoscopic effect of a picture depends on the back ground, and much of the character of the pictures of our best photographers, is owing to their selection and arrangement of it.

In building a skylight, a distance of five or more feet behind it should be obtained, if possible. The back ground should be set as far back as is consistent with the required tint, and be easily movable, and even though a dark ground is required to contrast with a light dress, a light ground set far back is much better than a dark one near. So many manage that the ground and drapery are almost the same color, and a good picture cannot be the result. A back ground should be as large as the room will admit of, that it may be set back; a good effect may thus be obtained by setting it at an angle, that the ground may fade away into distance, even though one side of the plate may come up dark. Do not the best portrait painters aim at this effect, and why not photographers attain it, when so easily obtainable; any picture, but a full face, ought to be so arranged. When sitting with full face, the back ground must, of course, be equal; and any inequality must necessitate a gradation of distance, and of course, light.

When photographs are to be painted, fancy back grounds may be used with good effect to facilitate the colorer, but due regard must be had to natural effects, or the painter is retarded. The chief defect of the scenery back-ground now in use is, that the only foreground is the sitter, all else is distance, as if nature intended the individual to eclipse all immediate objects; the fault of the old masters is closely copied by modern photographers. If they only possessed their beauties now! they could pass muster.

As stippling is the fashion for re-touched photographs, a stippled back ground may be obtained by getting coarse, or rather coarse canvas, and giving it one thin coating of a dark color; the prominent parts will remain light, the back ground set barely out of focus will give the required effect. I should like to see some experienced photographers write on the subject.

From Price's Photography.

AN OUTLINE OF HISTORY.

Without entering at much detail into the history of the discovery of the power possessed by light to fix, under certain chemical conditions, the image of objects in nature upon a plane surface, a work upon photography would be obviously incomplete were the rise and progress of the art passed over in silence.

Photography, as its name implies, is the art of drawing by light, which indeed is not, strictly speaking, correct, since the most illuminating portion of the sunbeam is precisely that of least photographic action.

Twenty years have not elapsed since, in artistic and scientific circles, the greatest interest was excited by rumours of the fact, that Daguerre the artist—well-known to our public by his dioramic pictures—had succeeded in what had often been desired, and as often been pronounced hopeless, namely, in giving permanence to the picture produced in the "camera-obscura." The earliest results shown in London, in 1839, were marvellous representations of public monuments in Paris, views on the Seine, &c., depicted with a minutiæ and accuracy which astonished the beholder; they were on metal plaques, and were executed by the process since called, after its inventor, *Daguerreotype.* But though wonderful in the delicacy of their finish, the reflexion from the metal plate was found objectionable, nor did they possess any power of reproduction.

Simultaneously with the discovery by Neipce and Daguerre in France, our own countryman, Mr. Fox Talbot, had perfected researches upon which he had been engaged in the same direction, and the result was, in 1839, made known under the name of the Talbotype or Calotype, which differed from Daguerre's, inasmuch as it was on paper, and the picture being negative, that is, with the lights and shadows reversed, it possessed the power of a plate or *cliche*, from which an unlimited number of proofs might be printed, the diaphanous texture of the paper used allowing the passage of sufficient light.

But this process had likewise its disadvantages, although they were in another direction; it was too slow in receiving the action of light, to be advantageously applied to portraiture and the life, and was deficient in finesse and delicacy of execution when landscape, architecture, and still life were treated by it.

Matters stood thus when Mr. Scott Archer, in 1851, communicated to the public a new method of taking the photographic picture by means of a thin film of collodion, extended on the surface of a glass plate, and rendered sensitive to light by being treated with salts of silver. It was found in practice to combine the excellences of all previous methods, and possessed, besides, some peculiarly its own. It had more rapidity of action than even Daguerre's process; it could be manipulated at infinitely larger sizes, and had an unlimited power of reproduction, of which his was incapable: and it surpassed Mr. Talbot's by its incomparably greater sensitiveness, its superior discrimination of textures, and minuteness of detail.

This is the Collodion process, which is practised far and wide, from which unfortunately the inventor, instead of reaping any benefit—as had been the case with Daguerre, to whom and his coadjutor France had granted pensions of 10,000 francs for life, with reversion to their families,—became impoverished by the expenses consequent upon his experiments in the art, and died leaving his widow and family to the sympathies of the public.

The Collodion process may be said to have superseded all others. Its qualities have, in practice, been found available for every conceivable subject, and of seven hundred works in the Photographic Exhibition of London, of this year, 1858, six hundred are due to Collodion; amongst them, showing its sensitiveness, pictures taken in the $\frac{1}{150}$th part of a second.

Such are the main phases of discovery and improvement in this wonderful art, from the first successful results, in 1839, to the present time; for, although many ingenious theorems have, during the interval, been propounded, they have either been found abortive in practice, or their qualities in various ways being inferior to the others, have been allowed to fall into disuetude. It would, therefore, serve no purpose to detain the reader by the bare enumeration of them; the intent of this volume being to describe, with considerable minuteness, the processes of the one found to give results of the greatest excellence, and by that necessary prolixity, to spare the student many disappointments, and enable him, by strictly following fixed details, to produce with much certainty a successful photographic picture.

ON THE USE OF COPPER, BRASS, GERMAN SILVER, IRON AND STEEL, AS A SUBSTITUTE FOR SILVER IN THE DAGUERREAN PROCESS.

BY P. H. VANDERWEYDE, M. D.

In this practical country, where no processes are used except those by experience demonstrated to be entirely successful, we are very much inclined to remain in the track found to be a profitable one, and to neglect everything promising only uncertain results. This is the reason why the daguerrean process reached so soon a greater perfection here than in Europe, and even so is now the collodion process, and the photographs obtained by means of it, going ahead of anything produced in the old country. This practical turn of mind of our people, explains the reason why they have such a great propensity in improving all useful inventions or old observations of Europeans, and at the same time it explains why other proceedings are so much neglected. One would almost suppose, in visiting our photographic attellers, that nothing at all was practised here but the daguerrean and collodion processes, with printing on paper sensitised with silver solution.

I will give a short description of some of the principal processes invented in trying to find a substitute for the expensive silver. They are partly unknown here, and partly forgotten. I think it useful to bring them under the eye of the practical photographers, not doubting that in the course of time something good may come out of them.

I.—HALLEUR'S PHOTOGRAPHS ON COPPER.

The copper plate is polished like the silver plate, but more care must be taken not to touch it during this process with the finger, as the spots thus produced cannot be eliminated even by heating the plate, but grinding is necessary.

This polished plate is prepared exactly as in the daguerrean process; the sensitiveness in the camera is a little less than the silver plate, so as to make it unfit for portraits, but only for buildings and landscapes; however, in the development the proceeding is very different, as in the place of mercurial vapor, sulphureted hydrogen gas is used to make the image visible; this image is formed by different tones of color, produced by a different intensity of illuminations.

II.—CARLEMAN'S PHOTOGRAPHS ON COPPER.

A well-polished copperplate is exposed to vapor of chlorine till it becomes yellow, pink, red, blue; again yellow and blue for the second time, in which state it is the most sensitive. These plates may be used also for printing, to make negatives of prints, copper engravings, and positives from common negatives. Unhappily, nothing has been found for the present to fix these images, as they disappear by day-light. However, this process has done service to engravers, as they may be preserved in the dark for an infinite period.

III.—HALLEUR'S PHOTOGRAPHS ON IRON, STEEL, BRASS AND GERMAN SILVER.

Halleur has made experiments with the above metals in a way similar to those on copper, and obtained interesting results; however, not of such kind to be certain of its practicability. He has promised to continue his researches, and we have to wait what he will find, if, in the meantime, others do not succeed with those metals.

IV.—TALBOT'S PHOTOGRAPHS ON STEEL.

The method given by Talbot to make photographs on steel, does strictly not belong to the class of operations we are treating of, as he coats the steel with iodized albumen, and exposes to a nitrate of silver bath, so that in his process the steel is nothing but a support for the sensitised albumen film, and his so-called photographs on steel are in reality photographs on a silver preparation.

Almost any substance may be used in this way; so our common ambrotypes, neillographs, melainotypes, etc., are nothing but collodiotypes on glass, paper, iron; and we have made such collodiotypes on common sheet iron, common black paper, mica, ivory, wood, slate, etc.

A LETTER FROM EVANSVILLE.

October 27th, 1858.

I am much obliged to you for the foreign publication; but it will be to me like a tureen of *soup meagre*, to a stout Briton —its contents will not be devoured. The fact is, much as you may be astonished, I don't read French, at least, not to understand it, so it would be somewhat a waste of labor for me to read the "Revue." No doubt I have sunk somewhat in your estimation by my shortcomings regarding the Parlez vous tongue, but I am quite content to let the editor of the "AMERICAN JOURNAL OF PHOTOGRAPHY" do the translations. However, your October 1 number coming just to hand has posted me up in some of the contents of my Frenchman.

I see that in Paris, as well as in Gotham, they sometimes punish very severely for prostituting the noble art of photography to the depiction of the basest scenes, and well deserving of punishment too are the degraders. Nevertheless, no slur must be cast on the art, from the perversions of its use: caligraphy is perverted to forgery, and printing to plagiarism; all the arts have been degraded, and brutal men throughout all time have bemeaned nature's noblest gifts. But bad as has been some of the uses of photography, all—but the extreme of bestial representations—all it can be used for, is to represent nature's productions; it cannot picture the human frame with unnatural conformations, merely to gratify bestial appetites. Models of the human figure are useful in art; though an arrangement of position will render a picture disgusting, we must not altogether exclude models for that reason. Means must, however, be adopted that such pictures shall not be sold as commercial property, but only for the purpose they are solely useful, as aids to artists. We must not forget, in our horror, that nudity is only disgusting when lascivious.

Your last number contains much philosophising, and 'tis useful; the art cannot be productive every day of startling discoveries and wonderful inventions; one may be surfeited with good things; too many wonders at a time are nauseating; it is much better to have few and good; indeed, I rejoice your contributors are calling the attention of their brethren to some of the minor details of the art, useful considerations that many, in their desires to attain some grand prize, may overlook. 'Tis quite curious to observe how many, taking rudimentary elements for granted, sometimes entirely slight trifles quite essential to success; let us have more elementary reminders.

That your plan is quite successful, I am fully convinced from the rapidly increasing numbers I find who subscribe for the JOURNAL. I expect I may soon be able to tell you it will be useless to track my steps through the agency of Uncle Sam's office; as I shall doubtless find one or more copies in every town I pass through, which I shall be able to obtain long enough to swallow its contents. By the way, I often come across the Journal of the Mysterious Black Bottle, but have not found more than one or two who ordered it, and about as many who pay for it because it is sent; some take it because it is addressed to them, but the majority let it remain in the post office, where it ultimately serves as kindling for the P. M. Some P. M's have told me they used regularly to go through the ordeal required, of sending back to the publisher, but that it came so often, and had got to be such a bore, they had dropped that move. Now, as I am unlearned in the ways of a great city, and am not used to the set modes of its businesses, can you tell me how the Mysterious Black Bottle Journal is made to pay. I can't imagine how I should be able to get bread and butter, and mayhaps, a piece of cheese, if I were to give away nearly all the pictures I made.

Business has been, and is dull here, out west; but hopes are entertained that there will be a lasting revival before the holidays. Yours, in cameras, chemicals and cases,

GOSSIP.

P. S.—Did you ever dispose of "that spelling book?"*

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* It still waits the order.—ED.

EXPRESSING CHARACTER IN PHOTOGRAPHIC PICTURES.

BY E. K. HOUGH.

It might be supposed that photographic practitioners are well posted in the principles of artistic representation, and that all the favors you could render them in the art would be to give them the best chemical processes for producing the picture after they had arranged the subject. But from personal observation—not extremely limited in either time or place—I know the contrary; for I have seen hundreds of pictures beautiful in chemical effects, utterly ruined as works of art, by inattention or want of knowledge regarding the arrangement of position and accessories.

It is too generally considered that expressions in pictures—such as looking happy or sad, mirthful or angry, nervously excited or gracefully calm—are all confined to the face, whereas the position and carriage of the head, the hands, the body, have each a particular and necessary relation to the entire effect.

It is not possible to give a picture the character of easy calmness, while the hands are firmly clasped or pressed down upon the knee, or if resting on a stand or pedestal, grasped tightly across the edge; for, however calm and fair the face may appear, from these minor evidences we know he or she was not calm, and the picture has lost half its power to please.

If only one finger be so placed that it requires an effort of the will to keep it so—as, for instance, held straight or strongly bent—it detracts from the expression of the entire picture. When the hands are not included, the muscle of the neck alone, by being rigidly contracted and showing prominently, often produce the same effect; and, although there is sometimes a difficulty in fully controlling the subject, I am convinced that a proper attention to these particulars would prevent most of these awkward results.

An artist in painting a picture from imagination, is compelled to know the meaning and expression of every muscle and limb, as they relate to the mood and character he intends to represent, and although a photographer can *take* a picture without this knowledge, he requires the same in every respect to properly arrange his subject for the effect in view, and to judge in the finished picture if it is attained.

The fact that positions express character is deserving of some thought, for it will often account for the seeming unreasonable whims of visitors in rejecting clear-toned and finely finished pictures, for those far inferior in smoothness, brilliancy, and beauty of color. They find in them some touch of nature, in position and expression, worth all the rest.

I will illustrate with an incident. Not long since I stepped into the operating room of an artist acquaintance, and found him busy fixing the liniaments of a "lady fair," upon a surface much more "sensitive" than his heart—for no "fair image" ever made a very deep impression there. Tom cased the picture, and brought it for the lady's inspection, calling attention to its good points by a few words of professional praise. The lady, however, did not seem to appreciate, and insisted that "it didn't look natural," very politely requesting him to try again, "if it would not be too much trouble." Tom is polite, and "would try again with pleasure." I followed him into the work room, when he threw the case down, pettishly exclaiming, "I wish these women could ever be satisfied." While he set about preparing another plate, I picked it up; it was a small "bust" picture, fine in detail and clear in tone, and was so far—as Tom evidently thought—"good enough;" but the lady's reasons for rejecting it were good also—it was not natural. She was medium sized, with round rosy face and full expressive eyes, quiet and undemonstrative in demeanor, and withal, modest and pretty; but Tom's picture had done away with "all that." He had placed her full front, face and person, taken the head large and a little elevated, "to get a good light on the face;" the point of view, or the end of the camera tube had been raised to a point about level with her forehead, and she had been told to look at the upper corner of the camera box, until altogether the expression was that of a bold independent woman, staring you full in the face, with a look of fearless admiration. It would have been a fine picture to express that particular character, but was not natural in this instance, because the lady had no such character, and was not accustomed to wear any such expression, and did not then but as the position compelled her to.

Tom usually has better taste than he evinced on this occasion, but it is all intuitive; he places a person in this or that position, because he "guesses" they will look well so, and when his mind is clear and active this succeeds very well—for he does right without knowing why it is right. But when he is dull, tired, and moreover happens to be hurried, his taste is unhinged, and works very irregularly, so that often after labored efforts he has, what seems to him, most unaccountable difficulties in pleasing his customers.

The secret is, he chooses positions which are good in themselves, and make fine pictures with the proper subject, but are not adapted to express the character of the particular person represented, and the resulting picture therefore fails to be "natural," however clear and perfect its chemical effects. Now, this idea of endeavoring to represent character in a daguerreotype, never enters into Tom's calculations, simply because it never occurred to him, or because "he has never considered it of any practical importance"—a very common phrase with which to dismiss subjects, we don't very well understand.

I quietly gave Tom my opinion of his picture, and suggested a few points for another position, which he carried out by taking the head smaller, turning the face and person partly away, having the eyes directed some distance one side of the camera, and a little lower than their level, and lowering the tube to a level with her chin, and this simple arrangement produced a picture on first trial that satisfied her entirely, and Tom found that "women can be suited."

(TO BE CONTINUED.)

THE IMPERFECTIONS OF THE CAMERA AND THE REMEDIES.

BY THE EDITOR.

Photographers generally suppose that they make very accurate representations of nature—that the camera is more trustworthy than the pencil, although wielded by the hand of genius.

But I protest that they—photographers generally—are deceived.

I admit that photographic portraits so much resemble the models, that the likeness seems palpable and an undoubted approach to a correct representation. Photography is such a new art, that our astonishment at its actual achievements has kept out of view the most desirable qualities in portraits. At first, we were satisfied with such a shadow of a picture as could be barely recognized as a likeness of ourselves; and at the present time most photographic artists consider their work perfect, when all the chemical and mechanical manipulations are properly performed. The *beau ideal* with them of a perfect photograph, is a sharp, bold, and clear picture, with all the middle tints, and free from spots and stains. Will such men learn that something more is to be striven for ?

Our mortal coil incloses and shields something of infinitely greater worth and beauty than itself. Is a view of the immortal part beyond the reach of photography ? Surely the soul shows its features in the face ; it may display its whole form and character. Painters know these things, and would consider their work but half done, if the mind and character were not represented. Let photographers, and the people who want portraits, learn that a higher art is desirable, and it will be soon found attainable ; the methods cannot be more troublesome or beyond control, than those to which the painters are obliged to resort. May we not hope that instead of representation of men as dead, or in a somnambulic trance, we may have pictures of life and thought ? Let the reformation be fairly commenced, and picture *factories* will find their true level.

So far I have discoursed rather on the shortcomings of the managers of the camera, than on the instrument itself.

Sharpness of definition is commonly considered the most desirable quality of a camera ; if the instrument gives a sharp image of a newspaper, it has passed the great ordeal. But try it on a portrait focussing on the eyes, and the eyes come out clear and bright, and a plane of the figure passing through the eyes, and perpendicular to the axis, has such admirable sharpness, that a powerful microscope will reveal peculiarities in the model invisible to the naked eye. Is such sharpness really desirable in a portrait ? I say no ! Painters do not strive after it ; when we view the model at such a distance as to make it seem of the size of the picture, we do not find it. Sharpness is really a secondary quality, when it is obtained at the sacrifice of correct drawing. or in other words, of field and depth. In fact, beyond a mere bit of space, the common camera, as commonly used, is a very awkward draughtsman.* Sometimes the face is twisted, lengthened or flattened, and the drapery and extremities are almost ridiculously out of proportion. Photographers surely cannot appreciate these defects when they are still eager for *sharp* cameras and *mammoth* cameras. The readers of the Journal will recollect that this is not a new subject with me, and that I have indicated as a partial remedy lenses of small aperture, and the enlargement of small pictures.

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* Why do engravers and other artists in copying photographs, imitate, Chinese like, all the distortion of the camera, and represent beautiful ladies, (like Piccolomini, for example,) with hands like legs of mutton ?

The chief object of this paper was, however, to propose for consideration another remedy for distortion, which I believe has the merit of novelty, and in many cases would prove of practical utility. The remedy consists simply in keeping the lens in motion during the exposure, so that all parts would successively be brought in focus. In taking a portrait, for example, I would focus first on the front of the face, mark the position of the lenses on the tube, then find the focus on the most distant visible part, and mark the tube. During the exposure, now move the tube steadily between the two points. For a satisfactory trial, I should prefer a lens of long focus, and one which produced of itself as little distortion as possible, otherwise the injury to sharpness might be too great. Of course, a rickety camera stand, or mis-shaped brass work, would defeat success.

ALL ABOUT A GROUND GLASS—A HIT AT THE EDITOR, AND A PATENT.

Mr. Editor:—My dear sir, I have made a discovery. I deserve a patent, at least so I thought, and in the simplicity of my heart I was about rushing to the patent office folks, to get them to exclude all and every body else from using it, and to let me work it all to myself or for my own advantage, when it occurred to me that I had better think a little—second thoughts are best, you know. Perhaps it is as well I did so, for you know they might have refused me; it is so simple, and yet its simplicity is its greatest advantage. They (I mean the patent office folks) are simple enough to give patents for things far less valuable, at all events as little deserving, as I shall show you before I am done.

One thing I am quite certain of. If they who are in want of ground glass, knew how easy it was to make it, they would not go hunting about for one, and recommending to others all sorts of nonsense as substitutes. Indeed, I ought to be the last to find fault, for I myself went a hunting, and ended just where I ought to have begun. Just fancy my trying collodion, so eager was I to try every thing; but I found mine altogether too transparent, either for humbug or ground glass. I had authority, however, no less than Photographic Notes endorsed in your Journal, over the name Gulliver—fit name, had I but thought of Brobdignag, I might have saved myself the trouble. Well, here is his substitute. "Simply (simple indeed) coat a plate of plain glass with collodion, and allow it to dry, then fix it in the focusing frame."

Now, only think of that chap's pictures, how beautifully opalescent his negatives must be, how handsome his positives, when

> "O'er the features hung
> The veil, the silver veil which he had flung."—Moore.

by using such collodion.

Now, I will give you my plan. Get a glass, the size you want, get some fine emery, and sprinkle it over the glass, then with a smaller glass rub all over, pouring on water to facilitate the rubbing, and in ten or fifteen minutes you will have as nice a ground glass as you can desire, and it won't cost three cents, barring the elbow grease.

Now, sir, don't you think I am entitled to a patent? No! why not? it is as good as many other things that have been patented, for instance, the last new dodge, "transferring the collodion film," (patented forsooth,) recommended in the American Journal, and found worthy of "honorable mention," by the Editor.

Now, before we proceed, let us look back—retrospection is a healthful mental exercise. Well, on page 29, read: "We intend to lay a heavy hand on the peddling of worthless receipts. ....latterly, it seems as if there had been a general overhauling of old books and journals of photography, and out of them every forgotten process was flying about." Then after an outburst of virtuous indignation, we are asked, "will our subscribers assist us?" I fancy I hear a thundering yes from all creation, (for your Journal is all over.) Well, then, we will assist. We bring before your notice this last new "dodge," and require of you to "lay on the heavy hand;" aye, lay it on "heavy," for the fellow has had the effrontery (I was about to say unparalleled, but alas there are too many like him) of bringing his nostrum under your very nose; faugh! did you not "smell a rat?" And then the charge, three dollars for a dodge picked out of Humphrey's Journal, 6 months before the patent was granted, whew!!

But to the proof.

Humphrey's Journal. May 1st, 1857.	AMERICAN JOURNAL. Oct. 1st, 1857.
Clean the glass plate; coat with white wax.	Clean the glass plate, and coat with white wax.
Buff the plate very thin; take the picture same as any ambrotype.	Buff the plate very thin; take the picture as usual.
When dry, flow over black varnish, rendered tough by Canada balsam, reduced to a proper consistence by turpentine; when the varnish is nearly dry, roll on it black paper soaked in water.	When dry, flow over black varnish, rendered more adhesive and tacky by the addition of Canada balsam; when the varnish is nearly dry, the paper, soaked in water, is rolled on.
J. S. R.	Howell's patent, granted Sept. 22, 1857, nearly 6 months after publication by J. S. R.

Now, sir, this comes exactly under the category above mentioned, and justice calls aloud for punishment; "lay on Mac Duff" the "heavy hand." Fortunately, we were cautioned about "sharp fellows who make a living by selling formula...... does a regular brick," (howling for what he can devour,) "relying on a true aversion of the profession to take periodicals, read some really useful process of positive utility, he knows he can make a good thing of it, and seeks a patent from commissioners who know nothing of photography."—Garbanati.

Now, sir, I hope I have assisted you—by the way, can you assist me? I have tried the patent, but I cannot succeed in taking off the film, without making such a concatenation of puckers as would frighten a monkey, if he thought his face was wrinkled so. W. CAMPBELL, Jersey City.

(From every point of view we have only found the above a "rouser," or to use a still more vulgar expression, "a perfect stunner." At the first blush our blood boiled with indignation at the impostor, Howell—at ourself for being caught in our own snare—at our neighbor, Campbell, for discovering our weakness!

We had made preparation for a fierce and deadly onslaught on quacks. We felt trebly armed, for we had justice and the law on our side. We would be bold as a lion. But the cunning Howell, with hypocritical candor, and insinuating modesty,

"Beards the lion in his den.
The Douglass in his hall,"

and we are sold to the devil. We become the vilest of the scurvy company of quacks. *Words* cannot express the indignation of a virtuous man in such a predicament.

But while the printer has been putting Mr. Campbell's letter in type, we have had some serious thoughts—the blush has gone and the indignation. We write and think now calmly and deliberately, that our correspondent is quite in the wrong, and that we are only "hit at," and not touched in the least.

Howell's patent was issued May 19th, 1857, and re-issued Sept. 22d, 1857. Mr. Campbell quotes from our Journal of 1857, when he meant 1858. Did he make the same error regarding the other publication? We suspect so. We are unable to verify our conclusion, for we don't happen to have about us the "Journal of the Daguerreotype and Photographic Arts and the Sciences and &c., &c." At all events, the "Journal of &c., &c.," has published the process at least three times this year. And if J. S. R. had published it in 1857, it by no means follows that Mr. Howell stole it from him, or that the patent is invalid. Why can't we suspect J. S. R. with some reason?

Let us hear from Mr. Howell. Although we are satisfied with him as a gentleman, and with his patent, yet Mr. Campbell's letter may leave with some a doubt which should be removed.

About the ground glass, our neighbor has "let the cat out of the bag." He has exposed a trade secret. But "elbow grease" is expensive in some quarters.

The failure with the transfer process, we believe, was due to its imperfect execution.)—ED.

EDITORIAL MISCELLANY.

——Will the vexed question of the stereoscopic angle ever be put to rest? A learned pundit of New York, believing his wares too precious for our homely climate and people, publishes in a late English journal, a ponderous article under the caption of "Stereography." The pith and conclusion of the whole matter is set down as follows:

> "Taking the focal length of the eye as the unit of measure, we see that the distance between the centres of the pupils is equal to four times the focal length.
>
> "A binocular view may, *therefore, be enuunciatad thus:—It is a combination of two monocular views, formed by a pair of equi-focal lenses,* (the eyes,) *taken from two stations situated horizontally apart, at a distance equal to four times the length of the lenses employed.* Hence the formula is, when F is the focal length, and D is the horizontal distance of the stations apart,
>
> $$D = 4F$$
>
> "This formula will apply to lenses of any focal length whatever."

Prodigious!!!

Yet the above formula is capable of simplification and demonstration to the meanest capacity. It is not every one that can measure the focal length of the eye, or believe it just 6-16 of an inch, Then, take another unit of measure, the formula will not be vitiated.

Provide yourself with a yardstick, and laying it on the bridge of the nose, observe that the distance from centre to centre of the eyes is, say two and a half inches. Now, for a unit of measure:—Remove the ordinary covering of your right foot, apply the yard stick to your toes, and when you find a toe-nail which measures 5-8 of an inch, take that toe-nail length as the unit of measure. (If the nail has'nt reached that length, let it grow to it.) Now, having found a unit of measure, and a very easy one to understand, is'nt it plain that if it be substituted for the focal length of the eyes in the pundit's proposition, the conclusion will follow with a Q. E. D. triumph.

$$D = 4F \quad \text{Certainly!!}$$

Skeptics, work it out and see.

This photographic Procrustes is surely a wonderful fellow, for, besides mathematically expounding, he informs his readers that he has constructed "a waggon for the purpose of a camera to take views of every kind—scioptric, stereoscopic, and cyclopic, . . . and shall, if encouraged, send the negatives to Britain for sale."

Men of Britain! we conjure you, don't lend yourselves to the scheme of robbing our country of such talent, and those great pictures!!

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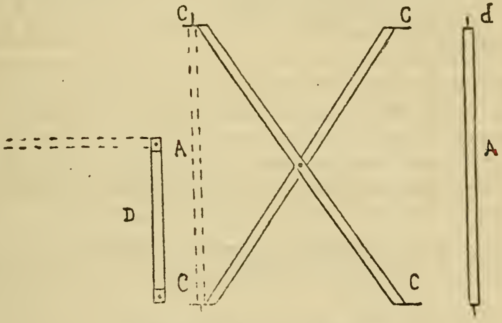

A PORTABLE TENT.

BY A. C. ROSS.

In accordance with my promise, I send you a description of a dark tent which has been in use and was gotten up by Mr. G. Q. A. Tresize, of this place, some two years ago. I have been using one for the wet collodion in the field for the last six or eight months, and I find it all that can be desired; with everything to fit it can be put up and taken down within ten minutes. But for the description. Take four pieces of pine (A) 3-4 of an inch square and six feet long; into each end drive a stout wire pin (d); then take two pieces of pine half inch thick, one inch wide and about six feet seven inches long, fastened together in the middle, so that they will open out like the letter X; in the top and bottom of the cross pieces are secured a stout piece of sheet iron (e), and bent horizontal with a hole pierced through to admit the pin (d) in the post (A). See dotted lines of the post (A). There are three of those cross pieces, which when put together, form three sides of a square three feet wide and six high, the fourth side is left for the door.

The pieces for the top (D) are made one inch wide, half inch thick, and three feet one inch long, halved at the ends, and holes in the ends just three feet apart, to admit the pins d, in the posts A. On the pieces D, are nailed the side coverings of the tent; for my own tent I have oil-cloth six inches wider than the pieces, so that it can be folded round the corners, and for the top covering I have a piece of oil-cloth forty inches square with four holes in it just three feet apart to admit of the pins in the posts A. In one side I have a hole cut in the oil-cloth eight inches square, and covered with *lemon colored* muslin, which will admit even the sunlight on a plate, while developing without fogging it. A shelf may be suspended from the top pieces (D), or supported at the angles of the cross pieces.

I have made some alterations in my tent from the above; you will see from the stereoscopic view of it enclosed, that I have glued pieces in the corners, and have hinged the two sides to the back with webbing like a clothes horse, the right hand side folds in front, the left side folds on the back of the back part. This still makes it quicker to put up.

I think from the stereoscopic view, almost any one could make the tent, without any description.

Zanesville, Oct. 29th, 1858.

From Photographic Notes.

PURE NITRATE OF SILVER WANTED.

BY THOMAS SUTTON.

Among the valuable papers which have at different times been communicated by Mr. Hardwich to the Journal of the Photographic Society, there is probably not one of greater practical importance than his last communication, published in No. 70 of that Journal, in which the effects of using impure nitrate of silver are pointed out. This salt is the most important chemical used by photographers, and it is now evident that on its chemical purity a great deal more depends than has generally been supposed. The experiments made by Mr. Hardwich were briefly as follows:—First, a pure sample of nitrate of silver, made by dissolving pure silver in pure nitric acid, was made into a 30-grain bath, and slightly acidulated with acetic acid;—next, two samples of commercial nitrate of silver, obtained from one of the largest manufacturers of that salt, were made into separate baths of equal strength, and acidified to the same extent as the first with acetic acid. These three baths were then tried one against the other, with the same collodion and developer. The result was that the bath made with pure nitrate of silver gave good negatives in 15 seconds, while the other baths gave negatives which exhibited many serious defects, and required a much longer exposure. The experiments are minutely described in the paper referred to, and were no doubt most carefully made. They lead to the conclusion that nothing but pure nitrate of silver should be used by photographers. With such evidence before him, the practical photographer should now make up his mind to use no nitrate of silver except that which is manufactured by dissolving pure silver in pure nitric acid; and in order to obtain this pure article he must not object to pay a reasonable price for it;—that is, at least five shillings* per oz. We should be truly glad to see every photographic firm in the kingdom at once raise the price of nitrate of silver to five shillings, and sell none that is not of guaranteed purity, and manufactured in the first instance from pure silver, totally free from alloy. Or, at any rate, we should be glad to see two varieties kept by the trade, one for those customers who cannot afford to use a cheap and impure article, having neither the money nor the time to throw away upon failures:—and, if necessary, another sort kept for those who *can* afford to use a bad article, who *have* money and time to throw away, and who consider failures an agreeable excitement rather than otherwise.

In every branch of photography pure nitrate of silver no doubt yields the best results, diminishes the chances of failure, and increases the sensitiveness of the excited film, or paper;—and in every branch of photography no doubt many of the failures which occur are to be attributed to the impure commercial nitrate of silver which has been so largely supplied to photographers. In the negative collodion process the effects due to impure nitrate of silver are felt chiefly when a new bath is used. Where is the photographer who is not nervous about the qualities of a new bath,—or who has not been dismayed by the extraordinary failures produced by new baths; and what is the proper remedy for this state of things? The addition, first of carbonate of soda, and then of acetic acid, generally succeeds in so far remedying the bath that it gives clean and dense pictures, but this is equivalent to adding acetate of silver; and does not a bath which has been so treated give somewhat coarse pictures? Then again, it is generally admitted that the iron developer gives far finer negatives than pyro-gallic acid, when it can be made to work;—and why can it not *always* be made to work?—why can it be used with one bath and not with another? Why does a bath which gives good negatives with the iron developer to-day, give bad ones with the same collodion and developer to-morrow, rendering the developer muddy and covering the picture with stains? Is it not likely that these things are brought about by impurities in the nitrate of silver which have been overpowered or masked for a time by the addition of an acetate? And again, in the positive collodion process, may not the almost universal bad tone of positives be due to a great extent to the almost universal employment of impure commercial nitrate of silver? And in the printing processes, what is more likely than that impure nitrate of silver may be the fertile cause of the many irregularities which occur in these processes? There is surely no greater mistake than to suppose that any old negative bath, or refuse nitrate of silver, will do for positive printing; on the contrary, we believe it to be quite as essential to use pure fresh nitrate of silver in printing as in any other operation, if brilliant, vigorous, and permanent prints are desired.

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*$1 25.

The photographer may depend upon it he cannot be too particular in the purity of his nitrate of silver; or, if he be a daguerreotypist, in the purity of the silver with which his plates are coated. To buy cheap nitrate of silver, or cheap daguerreotype plates, is certainly false economy, and we shall be glad to see a strong reaction set in in favor of pure silver; and then, when the demand has become imperative and universal, the supply will follow as a matter of course. It has surely been a great mistake of the trade to reduce the price of nitrate of silver. Instead of doing this, the price should have been maintained at 5s. per oz. and the rivalry have been to produce the purest article. Considering that nitrate of silver contains about two-thirds by weight of pure silver, we cannot imagine how a pure article can be supplied at the prices now cited by some of the leading firms. But the fact is the commercial article supplied at these low prices, is *not* fit for photographic purposes, and a totally different process should be employed in its manufacture. That process will be found to consist in first obtaining pure silver then dissolving it in nitric acid. We know of no other means of obtaining pure silver than by throwing down the chloride from an impure solution of the nitrate by means of salt, and then reducing the chloride, by fusion with soda, to a melted mass of pure silver. This appears to be a necessary first step in the process of making photographic nitrate of silver. Should the nitrate thus made by dissolving the pure silver in nitric acid be found to contain a very slight excess of free nitric acid, it will perhaps be better to leave it alone than neutralise it by adding oxide of silver of questionable purity. With good collodion there is no objection to a *faint trace* of free nitric acid in the negative bath, and for positives excess of nitric acid is a decided advantage, nor is it at all objectionable in the printing processes. The quantity should however be reduced as much as possible by evaporating and recrystalising when extraordinary sensitiveness is required. A great clamor has been raised about the free nitric acid in nitrate of silver, but in our opinion the nitric acid is harmless in comparison with other impurities, which are either metallic or carbonaceous.

Our readers may depend upon it that pure nitrate of silver is a matter of great practical importance. The exact nature of the impurities in the salt now commonly sold is very obscure, but their effects are nevertheless very strongly marked, and since they are avoided by dissolving the pure metal in the acid the practical conclusion is that that plan should be generally adopted, and the present mode of manufacturing the salt from mixed metals given up.

EXPRESSING CHARACTER IN PHOTOGRAPHIC PICTURES.*

BY E. K. HOUGH.

The incident related in the article of which this is a continuation, was introduced to show that for the benefit of the art of portraiture, and for the elevation of its professional followers to the position of true artists, there must be a different mode of treatment adopted for the subjects given them to represent, than the irrational one now in common use.

From the manner in which sitters in photographic studios are usually treated, a strict criticism would deduce that the "human corporations" had no attribute but form, and that the rule adopted for representing them was to sit them down, stand them up, or lean them against any support that was most convenient for keeping them still, and for getting a good strong light to show their various shapes and proportions. No one could suppose that the artist thought they had souls—feelings, sentiments and dispositions—of which physical form was only a containing structure, and means of expression.

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* Continued from page 173.

And you would almost as soon expect to see them endeavoring to draw living vigor from a wooden statue, as to see them even attempting to make manifest the individual, mental, and spiritual qualities that dwell in human forms.

This department of art seems to be either beyond their comprehension, or their ambition—or both—for the weak plea, "that it won't pay" cannot be true in every instance, because many of them now are making large "wages" as *mechanics*, and would assuredly make more in the same localities as *artists*, however much they may doubt it.

I will try to explain what I conceive to be the difference between photographic operators who are artists only in name and by courtesy, and those who are so in thought, education and practice.

One of class first opens a room. He carpets, cushions and mirrors it to make it "draw." If he were sure customers would come just as readily and often without, he would not do it, however unpleasant it might be with bare walls and hard benches.

Well, his rooms are in "full blast," (as he advertises,) and doing a "paying business,"—his highest criterion of success—and now we will analyze him, when in presence of visitors.

A gentleman and lady enter. A rapid survey of his broadcloth and her silks, convinces him that they have the "dimes," and he meets them with impressive politeness. Before his mind's eye there rises the vision of an indefinite number of dollars, now in their pockets, that a little financiering will soon transfer to his. They signify their desire to patronise. He shows them various kinds of cases, and wishes to know how they will have the pictures "put up." They select a pair from each of two kinds—cheap and costly—and ask the price. He informs them. They decide that the best ones are too high-priced—they will take the cheapest. And here is precisely the exigency in which he displays the greatest skill, and puts forth his strongest mental efforts. The extra profit of two, three, or more dollars, is about to elude his grasp, and the pliant hinges of his tongue are set in rapid motion. "The cases are rich—very rich—will display a picture beautifully, and are cheap at the price—extremely cheap—much cheaper than the artist on the corner would sell the same quality; but if they will take the two best ones, he will "throw off" a dollar." They decide to take them, and he goes into his work room with the self-complaçent consciousness that he has made two dollars by sacrificing one dollar, and his dignity—a little loss and a great gain. Now, if his chemicals will only work well, he is all right.

He prepares his plate, and sits the lady, placing her head against the "rest;" and telling her not to move. She is a little nervous, and presses against it harder than need be, so that by the time he is ready to "expose," she looks about as natural and interesting as a person with hands and feet in that ancient, but useful machine for civil punishment—the stocks; or as one bound in the chair of fate in a torture-room of the Spanish Inquisition.

But he does not mind this: "if they will not look easy, how can he help it?" The picture is taken, and being smooth and bright, he pronounces it "fine," but the lady don't like the position—thinks she looks "stiff"—will he try again? Another plate is prepared, and she endeavors to look less rigid, and succeeds in holding her head quite natural, but a heavy silk shawl which she wears this time is drawn tightly across her shoulders, until a number of folds on each side, straight, and hard as iron, run to a point in the clasped hand lying in her lap. But he makes no endeavor to arrange it properly, in fact considers it of no consequence, and the second impression is produced. This does not suit, because the shawl looks awkward, the lady protesting she had no idea it would look so in the picture. He ventures very delicately to suggest that the chemical effect is so fine it should not be rejected for such a trifle as that. But the lady, with one of woman's unaccountable whims—as he thinks—considers the position and surroundings of the person, at least equally as worthy of attention as the mere color of the picture. The only object he has in view is to please them, because he must do that to get the money; but of what he shall do to please them, he forms no plan, except to get a picture clear and distinct, and in fact, thinks that ought to be sufficient, if it does not, he "cuts and tries," not until they are satisfied, but until they say, "finish that one—I guess it will have to answer." Therefore, he tries yet again, and hears the wished-for sentence, "finish," &c.

Then comes the gentleman, having prominent, well-defined features, but with sharp angles and outlines, and light eyes. He places him, full front view, and produces a picture giving the appearance of a broad flat face, the nose also broader, the thin, firm-pressed lips forming a narrow line, and the eyes like two holes in a blanket. This is decided not to be natural, although they do not really know why, except the eyes. The lady suggests a side view, and he tries, not because he thinks it will be better, but because it may suit. Again he blunders, by turning the front of the face toward the light—there are no shadows to the outlines of the forehead, nose and chin, leaving them very sharp and abrupt, the eyes worse than ever. Again the lady suggests turning him considerably away from the light, which he does, and produces a picture with the outlines rounded and softened, the form of the cheek, nostrils and mouth well defined, the eyes good, and of course it suits, and his money is earned. This cut and try routine he continues from day to day—tolerably sure of good chemical effects, he forms no plan of conduct regarding position—has no general or particular rule by which to adopt them to the peculiarities of individuals,—but, half a dozen persons coming in successively, with widely differing characteristics of mind and person, he sits them all in almost precisely the same position, if none of them object—if they do, he tries other ways until they say "enough," then falls back to the old routine again.

The entire number of positions kept in mind, as stock in trade, do not exceed four or five—of these, two, full front, and three-quarter side, monopolise four-fifths of all the pictures he makes. Sometimes side of person and front of face, sometimes the reverse, sometimes alike in both. These are the easiest to arrange, and therefore he adopts them without regard to any other advantages. In fact, his principal idea of position is to arrange the sitters where a good light will fall on them, and where they will be likely to keep still, and for the intellectual skill exercised, they might as well be stone idols from Egypt, except that the "humans" are more liable to move.

Regarding groups, his ideas of composition are more limited still. In them, each figure stands as self-contained and independent as a soldier on parade, whose posture is no different when there are a thousand men in his troup than when he stands alone. His groups are only two or more individuals taken on one plate, and could they be separated would each be a single picture, from whose posture you would form no idea that he or she had been placed in that position as one of the necessary parts making up a scene, or expressing a thought or purpose.

The excuse that this cannot be done, because the camera is deficient in capability for such effects, is rendered void by the fact, that stereoscopic slides, with thousands of varying groupings, from parties at cards to battle scenes representing the crusades, are exposed for sale daily. He is ashamed to admit his ignorance, and therefore blames his camera.

Mayhap, however, his lenses are imperfect—bought with a view to economy, and without a proper knowledge of the qualities that good cameras should possess. In that case his blame is as just, as the artist who bought brushes of bristles, and blamed them because they did not paint as fine as sable.

Imperfect instruments and imperfect knowledge, always will produce imperfect work.

If to execute beautiful photographs is a trade, so easy that men, having very limited scientific knowledge of the agents they use, a very inferior order of mechanical skill, and no artistic ideas whatever, can at once take and keep the front ranks of merit, then the contempt with which real artists regard it, is only just; there is nothing to call forth either intellect or ambition, and they turn away with disdain as they would from the manufacture of paper toys.

If it be thus easy, it bears no more relation to true art than the music ground from a street organ bears to the enchanting melody of Jenny Lind, or the triumphs of grand opera.

But, thank Heaven, it is not thus easy.

(TO BE CONTINUED.)

RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

Preliminaries.

It was in the spring of 1851, that I, Sol Skylight, a respectable manufacturer of Brooklyn, and withall, a bachelor, first had any practical knowledge of the process of face-mapping by Daguerre's art; often peeping into the show cases of Daguerrean exhibitors, and incidentally wondering how those things were done. I had never myself submitted to the operation.

Whether 'twas a lack of vanity, want of curiosity, dearth of amiable friends interested in my counterfeit presentiment, or want of time, deponent saith not;—that important secret will remain buried in the womb of time, and with myself. Possibly, I cannot myself divine the reason; nevertheless, the present devotee was then unappreciative of that branch of art, oblivious and uncurious to its powers of wonderment.

Time, the great developer, produced the occasion; woman, the charmer, matured the incident. My picture was wanted; I must have a daguerreotype taken; it was to be presented; I was positively in demand; ah!—case of friendship, nice fellow, interesting remembrancer. However, one picture begat another, and I became interested in the art.

Now, I knew somewhat of art, was born amidst pictures; nothing strange, therefore, that my curiosity once awakened, should not desire to sleep on the subject. I resolved to know more. I cannot analyze the sensation of my first daguerreotype, every thing was new to me; the artist readily persuaded to fifty per cent. difference in the value of a trifling case; the profundity of the mystery of this mysterious art, made me imagine a change of picture with each case. Did any body else ever have a sensation when having the first daguerreotype taken; is there a sensation, or is it fancy; is there a sensation every time,—certainly, stuck, bolt upright, cautioned not to move—to look steadily into a bomb-looking instrument, with a large, bright convex-concavo-plano, &c.—glass dazzling one's eyes, is it strange that I fancied an electrical action between myself and the camera? "Quiet and steady" before the cap was taken off, I felt a strong tremor all over, possibly an effort to be still; I certainly thought the picture would be all blurred, and that it was not so, shows that the tremor was not as strong as I imagined. I have known ever since that it is highly injudicious to cause the sitter to look in the camera.

I was then a looker on, and well remember the ordeal my second picture went through at my boarding house; this one did not like the position; that one, the expression; the other, the general tone of the picture, and I was persuaded to have it changed. I will admit that it was not good, but the incident shows the necessity of good pictures, that artistic work is its own recommendation.

Wilms Bristles, Brushmaker, was my landlord; business had long been bad with Bristles, and Bristles had long thought of seeking some other investment. Bristles had had many pictures taken, and was well known to picture takers, and consequently was better posted up than myself, when the conversation naturally turned on the various aspects of the art—its capabilities as a cash gatherer, and the best places to gather said cash in. Bristles knew daguerreotyping was a money making occupation; did'nt men open galleries with a carpet, a table and a few chairs, which, with a camera and a few dollars worth of material, constituted all their stock in trade, and did'nt some of them make money too, and have lots of time to spare after day-light labor, (sky-light?) Why, he was acquainted with a stupid, one-idead man—and a mighty attenuated idea at that—who was taking the poorest kind of pictures, with the most preposterous and meaningless positions and expressions, and yet got a good living, in Broadway, too ; only think of such a fellow in Broadway—there are more than one now—the physic begins to work—I feel interested. Bristles is hard up, but knowing I could raise dollars, he can raise some too. Why not try the business? he could soon learn, any intelligent man could, and he is no fool. I knew I could learn from him—knowing Bristles—and California would yield a rich harvest, but that is too far off, would cost too much to get there, would require too much capital, nothing on the spot, everything to be taken, besides the fever is not at a crisis, they may not require many pictures just yet. California still fluctuates, we are in doubt; yet the picture-taking must be engaged in. I am committed. Hurra! laughs Bristles in his own quiet way, I did'nt hear it, but now see it; but where shall it be—shall we venture New York. Pity we did'nt. But a mighty idea flitters o'er the brain of Sol Skylight; its scintilations light up his soul. Let us go to London! to London? Yes: why, do you see, here we have artists in great numbers, taking pictures at little price; people are pretty well supplied; foolish Sol Skylight; there artists are scarce and pictures are high; why not then engage in the undeveloped trade take pictures at half their prices, and yet at double ours; the great masses are as yet unsupplied, and WE American artists have a great name. Humph. Excellent logic; so it was, and London was fixed on. Bristles now commences taking lessons of a Brooklyn artist, and soon gets ahead of his instructor, from the simple reason, that he knew but little and never will know much more. So Bristles, like a wise man, gives more dollars and some two weeks time to an excellent artist, who knows something.

In a back parlor in Washington Street. see Bristles duly installed, self-instructing, and imparting his knowledge as acquired, to Sol Skylight in his leisure time. Sol, the future photographic artist, is initiated into the mystery of plate-cleaning, and duly feels his genius equal to all its demands. Soon to the more commodious show rooms of Sol's contracting business in Atlantic Street, the enthusiasts remove their experiments, and soon amidst the productions of inferior pictures, under the influence of adverse circumstances, Sol and his partner Bristles conclude that they may venture to London, and not disgrace the fair fame of American artists, with their camera portraits. And now Bristles prepares for his departure in advance, and Sol with rapidity draws in his business, sells stock and tools by auction and by private sale, and with part of the apparatus and stock, and full instruction to take a suitable place in London, Bristles starts on his way, accompanied by Sol, to Philadelphia, to see him off, and sell part of his stock: and lucky it was for Bristles, for Sol saved him from the hands of the Phillistines, and sees him on his way, sad, yet perchance rejoicing.

A POPULAR ERROR REGARDING COLLODION.

BY JAMES CADY.

It is the common practice of photographers to prepare their collodion after the direction of some famous author, scarcely daring to dream that there can be any liberty of variation. Everything is weighed or measured as if success depended upon the utmost exactness; and if success does not follow, everything is blamed before the formula is suspected.

Now, it seems to me, that a man who constantly makes photographs, has better opportunities than our amateur authors, and should unhesitatingly use his own judgment if in opposition even to all the authors.

As an example of a popular error, I would instance the ordinary recipes for collodion. Many persons believe that Hadow, Hardwich and others, have demonstrated that the ether and alcohol in collodion should be in the exact proportion of five parts to three, and that any other proportion would produce an inferior article. Yet I have shown by my practice of more than a year, that generally such an exact proportion is erroneous. It may often be the best, but it is an unsafe rule. The correct proportion of alcohol and ether, depends especially upon the quality of the gun cotton; also, the condition of the bath, the kind of excitants, the temperature, &c., may be considered in a case of great nicety. The proportion of equal parts of ether and alcohol will be found oftener desirable than what is commonly followed. For the past year, I have adopted this proportion, and have seldom been obliged to make any change in the collodion so prepared. The greatest objection to a larger dose of alcohol is, that the film requires too long a time to "set"

New York, October 9th, 1858.

THE HOWELL PATENT.

A LETTER FROM MR. HOWELL.

ASHTABULA, Nov. 6th, 1858

MR. EDITOR :—I feel disposed to give you a brief account of "Howell's Patent," how and when I commenced operations, &c. In the month of June, 1856, I commenced the use of beeswax for the purpose of transfering the collodion film picture; I was led to try this experiment, not from reading Humphrey's Journal, but from knowing the fact, that gutta percha was used for this purpose, and also knowing that it was objectionable, on account of the veiled appearance of the picture after it was completed. The result of my experiment was satisfactory, and I deemed it quite an improvement. But, unfortunately for me, I was taken sick before I was able to complete a formula for a transfer, and consequently was not able to attend to the matter until the following November. In the month of January, 1857, I made application for letters patent for said transfer process. A few weeks after I made my application for said letters patent, I gave instructions of said formula to a gentleman in Painesville, Lake Co., Ohio. A short time later, one J. S. Reynolds, (or J. S. R.,) a resident of said Painesville, was very anxious to get hold of the said process, and as the gentleman above alluded to, was not willing said J. S. R. should have it, it was withheld from him. Therefore, said J. S. R. set his wits to work to get hold of it, and the course adopted for this purpose was, in my humble opinion, anything but gentlemanly. He succeeded, however, and then what followed? Why, J. S. R. writes in brief the process to Humphrey for publication, and for what purpose you may guess; as for me I know without guessing. One thing more relative to J. S. R.; he knew, previous to writing to Humphrey's Journal, that application for letters patent had been made for said process. Now, sir, who is the thief; who is he "that reads some really useful process of positive utility, knowing that he can make a good thing of it, and seeks a patent from commissioners who know nothing of photography?"

I beg leave to differ in opinion, as to commissioners of patents not knowing of photography. All you have to do is to try them, and I think you will find them fully posted.

As to Mr. Campbell's failure, it is either ignorance or negligence of the process.

In proof of the above, relative to the application for letters patent, &c., I refer you to the records of the patent office. As to the other matters, you must take my word for it, and I am so presumptuous as to consider my word good to the letter, notwithstanding all the blow about stealing processes, &c., &c.

Since writing the above, I happened to find the enclosed picture; I send it simply that you may see one of the Howell papertypes, made nearly one year ago. No especial pains has been taken to keep it in good order, and I could produce pictures, with equal good surface to the enclosed, which I made two years ago this present month; I mean transfers by the Howell process. Yours truly,

EDWARD HOWELL.

EDITORIAL MISCELLANY.

———We trust that the recent change in the subjects discussed in this Journal will be acceptable and satisfactory. At the present time, the mechanical and chemical processes and theories of photography are far in advance of its other and higher requirements. We understand tolerably well, and are able to control our materials so as to produce any desired chemical effect, yet that refined and artistic judgment which eventually wlll preside over all successful photographic working, needs to be roused from its slumbers and put to school.

Some day the photographic art will not be the mechanical trade which is acquired in a month by men who have not the capacity to become tinkers and tailors in years of apprenticeship. Some day the photographic art will be reckoned a fine art by all, commanding the highest honor for its votaries. May we not expect to hasten that day by efforts to show the higher capabilities of our art, and to point out some of the paths for advancement?

——A year ago we insisted on having pure nitrate of silver, and gave reasons like Mr. Sutton's. We would demand now as loudly that we should have the unadulterated article, but we would not urge the same reasons.

There is a difference between impurity and adulteration which seems not to be generally understood. Impurity may be the result of accident or carelessness, and may not materially diminish the quantity of a chemical preparation. Adulteration is made intentionally, and always diminishes the quantity. Impurity indicates ignorance and unskilfullness—adulteration, fraud. Also, a certain kind of impurity in nitrate of silver may be consistent with a tolerable amount of skill and an honest purpose. For example, a chemist purchases from respectable dealers fine silver and good nitric acid, makes nitrate of silver with these materials, crystalizes and recrystalizes the salt, and gets only such an article as Mr. Sutton condemns; he has committed no grievous offence; there is surely no fraud chargeable to him. And, moreover, if the impurity is easily to be removed by the consumer, little harm is done. It is on this that Mr. Hardwich and Mr. Sutton stumble; they do not know how easily to get rid of the impurity. Mr. Hardwich proposes to keep the crystals at a high temperature for a considerable time. Mr. Sutton would use only silver reduced from chloride, and pure nitric acid, thus preventing the defect. Either of these methods would prove too troublesome. Now, is it not strange that Mr. Sutton, who claims to have discovered "*the wonderful dodge*" has not thought of the exposure to light in this connection. If he will be pleased some day to try the effect of a little light upon his impure silver solution, in our opinion he will find his anxiety on the subject considerably relieved.

As to the nature of the impurity in question, we would respectfully suggest that Mr. Hardwich may have been searching in the wrong direction. We suspect the impurity is not organic or volatile, but metallic; and probably iron got in during the crucible operation. At all events, with what light our own experience has afforded, we cannot maintain any other theory.

Let it not be understood that we think too lightly of the impurity in silver salts which produces fogging. No chemist who regards his reputation of great moment, but will strive to eliminate it. We would only characterise it as far less worthy of complaint than deliberate adulteration. The man who sells nitrate of lead or potash for nitrate of silver deserves contempt, and more substantial punishment. The intelligent photographers of America are willing to pay $1.25 per oz. for any nitrate of silver which they know is not adulterated.

Finally, we venture to say, that when English photographers adopt the American system of working with 40 grain baths, heavily iodized collodion and sulphate of iron, they will have less to complain of baths acting irregularly.

——The letter of Mr. Howell we believe will be found to be quite conclusive. We have at no time lost any confidence in his hanest intentions. We still endorse and recommend his process.

——We invite attention to the communication of Mr. Cady.—Will those who have had similar experience please address us? We are acquainted with two at least who, about eighteen months since, used collodion with a large excess of alcohol. The first published account of such collodion, was made in this Journal, page 19, where seven or eight parts of alcohol to one of ether is recommended. We have recently made good negatives and ambrotypes with collodion composed of twenty-five parts of alcohol to one of ether. It will be remembered also, that we have for several years abandoned the proportions of 3 to 5 and adopted 3 to 4, recommending the addition of alcohol *ad libitum* to prevent peeling. These facts assume importance at the present time on account of very extravagant language of puffing in foreign journals concerning similar facts recently brought to light in England.

Mr. Cady is the very highest authority on practical matters. He is commonly acknowledged to be the most skilfull daguerreotypist living, and we predict for him the same eminence in the newer arts.

——Messrs. Seely & Garbanati have lately introduced a very ingenious vulcanite attachment to the camera shield, to serve as a cut off for vignette pictures. Such pictures are lately quite the fashion in New York.

——It is a rule among scientific men to decide claims of priority to discovery, by the date of publication; whoever first publishes a new thing, is entitled to all the honor.

We consider this a wise and fair law. But owing to an ignorance of it, many well-meaning men have felt themselves aggrieved. If a photographer finds anything useful to his brethren, it is his duty to himself and them to make it known, unless he desires to secure to himself the pecuniary advantages of a patent. We feel little sympathy for the man who loses the reward of his labor by his own neglect. A light under a bushel does no one any good.

The American mind is peculiarly active on practical matters, and we have no doubt whatever, that if photographers would hasten to publish what they know, they would lead the world in all the useful paths of discovery.

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

His Voyage and Reflections—Arrival in London.

Having seen the noble steamer, with my few-worded friend amongst its passengers, haul out, screw off, and throwing a forgotten parcel on board by way of parting salute, I rapidly transacted my business in Broadbrim town, and commenced the same routine in Brooklyn, where, by means of auction and otherwise, collections, compromises and sacrifices, and settlings up of accounts generally, I was ready to follow in a month, when I duly embarked in the good ship Independence for London, with quite an assortment of daguerrean goods of American manufacture, a letter from Mrs. Bristles, and words of affection from the little Bristles to their pa beyond the seas.

Now, the good ship Independence *had* been a good ship, but was now old and sea worn; she had been half seas over many times, and her return halves combined counted up quite a number of respectable voyages; unlike man, she had become loose in her joints by age, but like him, age had also given her a creeking voice;—by the way, how like man is a ship: voice sharp both by youth and age, and less discordant in maturity. The old sea plower had been quite a clipper—a regular spray dasher—making, in her time, some of the shortest passages between New York and London, and with favorable circumstances occasionally dittoing in her decline, which favorable circumstances prevailing on this auspicious occasion, she managed to give her passengers the opportunity of landing at the end of twenty-one days, which none failed to avail themselves of. How an old ship, even though a clipper and fast sailer, is apt to be slow in her arrangements, compared with our fast age, and a certain private office where passengers paid hasty visits singly, being in the vicinity of my state room, in nowise added to my comfort during four days successive sickness, nor could I by the most careful and logical deduction prove, that it in anywise assisted my recovery; but, on the contrary, I was forced to the painful conclusion, that if I did not keep the little window closed, that I might become highly choleratic, or in plain words, be seized by the cholera; neither was I by any means sure I should not be seized by a fever if I kept it closed, so which shall it be the risk of—cholera or fever? The question being duly submitted to my room-mate, who was going over to assist us in the onerous task of taking British pictures and British cash, it was decided in favor of fever, with occasional variations, according to the wind.

Some people sing the joys of the sea, and boast of its ever varying beauties; now, with all due deference to some people, and at the risk of being thought unpoetical, and matter of fact, I consider it unmitigated humbug, and the sea voyage, a dull and leaden monotony. See a good storm, and be pitched out of your berth in the flooded cabins; see a dead calm, and be impatient for a breath of air; see a dull and cloudless sky for "miles and milesses," and a glorious prospect of fleeting clouds; see a magnificent sun-rise, with old sol gradually lifting his red face up from the spot where sea and sky intersect, to mortal vision, as if he went to bed, drunk over night, and then gradually imparting his color to various strata of surrounding vaporous clouds, give in lustrous colors, such as is the highest art of man to imitate, a wondrous blaze of daylight, and realise a splendid and much poetised "sun-rise at sea," and watch at night, with varying effects, his gradual decline; see at night the sparkling diamond-like lights dashed from the foam, and at day the world of water, perchance in angry ferment, bidding defiance to the black and portentous sky; or perhaps, still and quiet, like the sleep of an infant, and you have a sea-life; but do you wish to gaze on forever; is your memory so voracious that it needs perpetual feeding; methinks such sights once seen can never be effaced. I want *change* to fill up the unoccupied chambers of thought and reflection, and tenant the mind with knowledge, especially when my fellow voyagers are dull and spiritless; don't tell me of friendships formed at sea —seldom lasting—and the agreable times engendered by the necessities of a voyage, those opportunities occur on shore. Why, that agreable old Irish gentleman, who had "travelled the wide world all over," whose society I was in the most of each day, and was the only relief of the cribbed and limited space of the ship's deck, I regard as only an incident of the voyage, and by no means a reason why another should be taken. No, I say emphatically, that every voyage has only confirmed me in the opinion that the sea is a bore, and that I never will seek it from love.

Duly arrived at Gravesend on Monday, a few impatients took boat, and rowed ashore, and after strolling the town, for a short time, in our peculiar American rig-out, of white coats and straw hats, we embarked on board a steamer, and saluted our ship as we passed, gliding along in the charge of a tug, well named from the work to do.

Arriving in London, I was soon perched on top of a "buss," going in search of Bristles, who had taken lodgings in the West End.

Now, London, to a stranger, or one long absent, is quite a sight, especially on Sunday, when everybody, with his wife and children, or—never mind details—is airing himself in his best clothes, the omnibusses plying their trade with equal industry, as on any other day, present quite a different aspect with their gay holiday and health-seeking occupants; the smiling faces of parents and hopeful ones of children, to the care-worn and anxious expressions of business hurried citizens on work days. London is decidedly gay, yet quiet on that day, and its denizens enjoy themselves and make the most of life. Why, you would scarcely know that care and trouble permeated its dwellings, and that poverty was known in its thoroughfares, but that an occasional beggar attended on the scene, and dispelled your illusion, and then you are not sure he is not an impostor.

London is decidedly a respectful and respectable place on Sunday, and from the top of a "buss" you have a good opportunity of viewing it; but the morrow—how changed the scene—how different and more varied the aspects of the human face divine!

Whilst I have been digressing I have been travelling, and being deposited at the spot nearest my destination, go in search of Bristles, and after sending searchers, find him paying a visit to an old friend to whom he had letters of introduction, and who had by no means forgotten my former visit and long stay.

From Photographic Notes of Oct. 1.

ALCOHOLIC COLLODION.

We published in the last number of this Journal a new formula for the manufacture of collodion, by which we endeavored to shew that a collodion, superior in some important particulars to any that has yet been employed by photographers, might be produced. To this new collodion we gave the name of ALCOHOLIC COLLODION, from its containing considerably more alcohol and less ether than common collodion. As this matter assumes in our eyes increasing importance, we will bring it once more before the notice of our readers, and point out some good properties of the new collodion which escaped our notice in the last number.

If our readers will refer to any of the old Treatises on the Manufacture of Collodion, or if they will test the specific gravity of the collodion commonly sold by manufacturers, they will find that hitherto it has been the general custom to use less alcohol than ether in the mixture which forms the solvent of the pyroxyline, altho' it has been generally admitted that the addition of alcohol has the tendency to render the collodion more sensitive, and at the same time more easy to manipulater. But it seems to have somehow escaped the notice of experimenters to try the addition of alcohol in its *anhydrous* or *absolute* state, as distilled with quick lime, instead of what is commonly called "absolute alcohol," but which in reality contains as much as 10 per cent of water. In short it appears that experiments have been tried with alcohol S.G. ·820, that is with the strongest alcohol that can be produced by simple distillation, instead of with the really anhydrous alcohol S. G. ·794, which can only be produced by distillation with quick lime; so that it has not been generally known that the latter kind of alcohol may be used in a large proportion as compared with the ether in the mixture which forms the solvent of pyroxyline; and we consider it a valuable discovery which we have made, that absolute alcohol may be extensively added to ether in the manufacture of collodion.

It appears from experiments made by us, and which seem to be quite conclusive, that the best collodion for general practical use, is that which is made by adding one part of absolute ether S.G. ·720 to four parts of absolute alcohol S.G. ·794, dissolving in this mixture from six to eight grains to the ounce of good photographic gun cotton,—and iodizing it with the usual iodizer, in the proportion of one part of iodizer to three of plain collodion. This is without doubt a much better formula for collodion than any that has been yet published, and we conceive that collodion thus made possesses advantages which will be certain ere long to bring it into general use. These advantages we will briefly state again under the following heads:

Facility of manipulation.—When collodion contains the usual large quantity of ether it is not easy to coat a plate properly in hot weather; and it generally happens under any circumstances that even when an operator has attained considerable skill in the process. he fails in producing an even layer of iodide of silver, when the film is viewed by transmitted light on removal from the nitrate bath. It frequently happens, even in skillful hands, that the collodion which has run to the edge or corner of a plate flows back again, when the plate is tilted, over the part which has become partially dry, so as to produce a cloud or wave. If any one will examine critically the film on removal from the nitrate bath, he will in general find a wave existing near some edge or corner, which has been produced by the cause stated. But when there is much less ether in the film it does not dry so rapidly, and these irregular markings do not occur, because the collodion flows like oil over the plate, and may be passed backwards and forwards over the same place with impunity. A plate is therefore more easily coated with alcoholic than with common collodion, under any circumstances, but particularly in hot weather; and when coated it exhibits an even film. Again, the less ether the film contains the more easily it is wetted in the nitrate bath, and the more easily the developer flows over it; which are by no means unimportant advantages.

Sensitiveness.—It might be concluded *a priori* that alcoholic collodion would be more sensitive than common collodion, and that we find to be the case; for if the same ingredients are mixed according to the old proportions, and the same bath and developer used, a longer exposure is necessary. This experiment is conclusive on the head of sensitiveness.

Density and half-tone.—Alcoholic collodion contains more pyroxyline than the common sort, and therefore the film has more body. This modifies the effects of solarization from over-exposure, because when a larger quantity of material is acted on by the light we may suppose that altho' the surface layer is solarized, still the part beneath it may be to some extent protected, so that density may be obtained in a thick film when it could not in a thin one; moreover, since the lights may be permitted to receive a longer exposure without injury, the details of the shadows may be better brought out. It has frequently been observed in the paper processes that thick paper gives denser negatives and better half-tones than thin paper,—and this is equally true of thick collodion films.

Alcoholic collodion has therefore the good qualities of being very easily manipulated,—very sensitive, and giving good density and half tone ;—add to this that the film is so strong and adhesive to the glass as to bear an unusual degree of rough treatment in washing, and that it is perfectly structureless, and gives very clean and pure lights, and the reader will perceive that alcoholic collodion is a good and practically useful vehicle for general purposes, and that it offers great facilities to the tyro in the art, and great advantages over the collodion hitherto employed by photographers.

The good keeping qualities of alcoholic collodion are also worth pointing out. It is well-known that iodized collodion gradually deteriorates by keeping, until in time it becomes red, insensitive and useless. This effect is due chiefly to the ether contained in the collodion, and the more ether there is the more rapidly the change takes place. Now the first peculiarity that struck us in the alcoholic collodion was the paleness of the tint produced on adding the iodizer, and the comparative slowness with which the tint changes to a deeper yellow; for even after several weeks the iodized collodion, (altho' iodized with iodide of potassium), does not pass beyond a straw yellow color, nor is its original sensitiveness much impaired.

SPECIFICATION OF MR. FOX TALBOT'S NEW PROCESS OF PHOTOGLYPHIC ENGRAVING.

"The process described in this specification, to which I have given the name of 'Photoglyphic Engraving,' is performed as follows:

"In this invention, I employ plates of steel, copper or zinc, such as are commonly used by engravers. Before using a plate, its surface should be well cleaned; it should then be rubbed with a linen cloth dipped in a mixture of caustic soda and whiting, in order to remove any trace of greasiness. The plate is then to be rubbed dry with another linen cloth. This process is then to be repeated; after which, the plate is in general sufficiently clean.

"In order to engrave a plate, I first cover it with a substance which is sensitive to light. This is prepared as follows:—About a quarter of an ounce of gelatine is dissolved in eight or ten ounces of water, by the aid of heat. To this solution is added about one ounce, by measure, of a saturated solution of bichromate of potash in water, and the mixture is strained through a linen cloth. The best sort of gelatine for the purpose is that used by cooks and confectioners, and commonly sold under the name of gelatine. In default of this, isinglass may be used, but it does not answer so well. Some specimens of isinglass have an acidity which slightly corrodes and injures the metal plates. If this accident occurs, ammonia should be added to the mixture, which will be found to correct it. This mixture of gelatine and bichromate of potash keeps good for several months, owing to the antiseptic and preserving power of the bichromate. It remains liquid and ready for use at any time during the summer months, but in cold weather it becomes a jelly and has to be warmed before using it: it should be kept in a cupboard or dark place. The proportions given above are convenient, but they may be considerably varied without injuring the result. The engraving process should be carried on in a partially darkened room, and is performed as follows:—A little of this prepared gelatine is poured on the plate to be engraved, which is then held vertical, and the superfluous liquid allowed to drain off at one of the corners of the plate. It is held in a horizontal position over a spirit lamp, which soon dries the gelatine which is left as a thin film, of a pale yellow color, covering the metallic surface, and generally bordered with several narrow bands of prismatic colors. These colors are of use to the operator, by enabling him to judge of the thinness of the film: when it is very thin, the prismatic colors are seen over the whole surface of the plate. Such plates often make excellent engravings; nevertheless, it is perhaps safer to use gelatine films, which are a little thicker. Experience alone can guide the operator to the best result. The object to be engraved is then laid on the metal plate, and screwed down upon it in a photographic copying frame. Such objects may be either material substances, as lace, the leaves of plants, &c., or they may be engravings, or writings, or photographs, &c., &c. The plate bearing the object upon it is then to be placed in the sunshine, for a space of time varying from one to several minutes, according to circumstances; or else, it may be placed in common daylight, but, of course, for a long time. As in other photographic processes, the judgment of the operator is here called into play, and his experience guides him as to the proper time of exposure to the light. When the frame is withdrawn from the light, and the object removed from the plate, a faint image is seen upon it—the yellow color of the gelatine having turned brown wherever the light has acted. This process so far as I have yet described it, is, in all essential respects, identical with that which I described in the specification of my former patent for improvements in engraving, bearing date the 29th Oct., 1852,

" The novelty of the present invention consists in the improved method by which the photographic image, obtained in the manner above described, is engraved upon the metal plate. The first of these improvements is as follows.—I formerly supposed that it was necessary to wash the plate, bearing the photographic image, in water, or in a mixture of water and alcohol, which dissolves only those portions of the gelatine on which the light has not acted; and I believe that all other persons who have employed this method of engraving, by means of gelatine and bichromate of potash, have followed the same method, viz., that of washing the photographic image. But however carefully this process is conducted, it is frequently found, when the plate is again dry, that a slight disturbance of the image has occurred, which, of course, is injurious to the beauty of the result; and, I have now ascertained, that it is not at all necessary to wash the photographic image; on the contrary, much more beautiful engravings are obtained upon plates that have not been washed, because the more delicate lines and details of the picture have not been at all disturbed. The process which I now employ is as follows:—When the plate bearing the photographic image is removed from the copying frame, I spread over its surface, carefully and very evenly, a little finely-powdered gum copal (in default of which common resin may be employed). It is much easier to spread this resinous powder evenly upon the surface of the gelatine, than it is to do so upon the naked surface of a metal plate. The chief error the operator has to guard against is that of putting on too much of the powder; the best results are obtained by using a very thin layer of it, provided it is uniformly distributed. If too much of the powder is laid on it it impedes the action of the etching liquid. When the plate has been thus very thinly powdered with copal, it is held horizontally over a spirit lamp in order to melt the copal; this requires a considerable heat. It might be supposed that this heating of the plate, after the formation of a delicate photographic image upon it, would disturb and injure that image; but it has no such effect. The melting of the copal is known by the change of color. The plate should then be withdrawn from the lamp, and suffered to cool. This process may be called the laying an acquatint ground upon the gelatine, and I believe it to be a new process. In the common mode of laying an acquatint ground, the resinous particles are laid upon the naked surface of the metal, before the engraving is commenced. The gelatine being thus covered with a layer of copal, disseminated uniformly and in minute particles, the etching liquid is to be poured on. This is prepared as follows:—Muriatic acid, otherwise called hydrocloric acid, is saturated with peroxide of iron, as much as it will dissolve with the aid of heat. After straining the solution, to remove impurities, it is evaporated till it is considerably reduced in volume, and is then poured off into bottles of a convenient capacity; as it cools it solidifies into a brown semi-chrystalline mass. The bottles are then well corked up, and kept for use. I shall call this preparation of iron by the name of perchloride of iron in the present specification, as I believe it to be identical with the substance described by chemical authors under that name—for example, see "Turner's Chemistry," fifth edition, page 537; and by others called permuriate of iron—for example, see "Brande's Manual of Chemistry," second edition, vol. ii. page 117.

"It is a substance very attractive of moisture. When a little of it is taken from a bottle, in the form of a dry powder, and laid upon a plate, it quickly deliquesces, absorbing the atmospheric moisture. In solution in water, it forms a yellow liquid in small thicknesses, but chestnut-brown in greater thicknesses. In order to render its mode of action in photographic engraving more intelligible, I will first state, that it can be very usefully employed in common etching; that is to say, that if a plate of copper, steel, or zinc is covered with an etching ground, and lines are traced on it with a needle's point, so as to form any artistic subject; then, if the solution of perchloride of iron is poured on, it quickly effects an etching, and does this without disengaging bubbles of gas, or causing any smell; for which reason it is much more convenient to use than aquafortis, and also because it does not injure the operator's hands or clothes if spilt upon them. It may be employed of various strengths for common etching, but requires peculiar management for photoglyphic engraving; and, as the success of that mode of engraving chiefly turns upon this point, it should be well attended to.

"Water dissolves an extraordinary quantity of perchloride of iron, sometimes evolving much heat during the solution. I find that the following is a convenient way of proceeding:—

"A bottle, (No. 1) is filled with a saturated solution of perchloride of iron in water.

"A bottle (No. 2) with a mixture, consisting of five or six parts of the saturated solution and one part of water.

"And a bottle (No. 3) with a weaker liquid, consisting of equal parts of water and the saturated solution. Before attempting an engraving of importance, it is almost essential to make preliminary trials, in order to ascertain that these liquids are of the proper strengths. These trials I shall, therefore, now proceed to point out. I have already explained how the photographic image is made on the surface of the gelatine, and covered with a thin layer of powdered copal or resin, which is then melted by holding the plate over a lamp. When the plate has become perfectly cold, it is ready for the etching process, which is performed as follows:—A small quantity of the solution in bottle No. 2, viz., that consisting of five or six parts of saturated solution to one of water, is poured upon the plate, and spread with a camel-hair brush evenly all over it. It is not necessary to make a wall of wax round the plate, because the quantity of liquid employed is so small that it has no tendency to run off the plate. The liquid penetrates the gelatine wherever the light has not acted on it, but refuses to penetrate those parts upon which the light has sufficiently acted. It is upon this remarkable fact that the art of photoglyphic engraving is mainly founded. In about a minute the etching is seen to begin, which is known by the parts etched turning dark brown or black, and then it spreads over the whole plate—the details of the picture appearing with great rapidity in every quarter of it. It is not desirable that this rapidity should be too great, for, in that case, it is necessary to stop the process before the etching has acquired sufficient depth (which requires an action of some minutes' duration). If, therefore, the etching, on trial, is found to proceed too rapidly, the strength of the liquid in bottle No. 2 must be altered (by adding some of the saturated solution to it), before it is employed for another engraving; but if, on the contrary, the etching fails to occur after the lapse of some minutes, or if it begins, but proceeds too slowly, this is a sign that the liquid in bottle No. 2 is too strong, and too nearly approaching saturation. To correct this, a little water must be added to it before it is employed for another engraving. But, in doing this, the operator must take notice, that a very minute quantity of water added, often makes a great difference, and causes the liquid to etch very rapidly. He will, therefore, be careful in adding water, not to do so too freely. When the proper strength of the solution in bottle No. 2 has thus been adjusted, which generally requires three or four experimental trials, it can be employed with security. Supposing then, that it has been ascertained to be of the right strength, the etching is commenced as above mentioned, and proceeds till all the details of the picture have become visible, and present a satisfactory appearance to the eye of the operator, which generally occurs in two or three minutes; the operator stirring the liquid all the time with a camel's hair brush, and thus slightly rubbing the surface of the gelatine, which has a good effect. When it seems likely that the etching will improve no further, it must be stopped. This is done by wiping off the liquid with cotton wool, and then rapidly pouring a stream of cold water over the plate, which carries off all the remainder of it. The plate is then wiped with a clean linen cloth, and then rubbed with soft whiting and water to remove the gelatine. The etching is then found to be completed.

"I will now describe another etching process, very slightly differing from the former, which I often use. When the plate is ready for etching, pour upon it a small quantity of the liquid (No. 1—the saturated solution). This should be allowed to rest upon the plate one or two minutes. It has no very apparent effect, but it acts usefully in hardening the gelatine. It is then poured off from the plate, and a sufficient quantity of solution (No. 2) is poured on. This affects the etching in the manner before described: and, if this appears to be quite satisfactory, nothing further is required to be done. But it often happens, that certain faint portions of the engraving—such as distant mountains or buildings in a landscape—refuse to appear; and as the engraving would be imperfect without them, I recommend the operator, in that case, to take some weak liquid (No. 3) in a little saucer, and, without pouring off the liquid (No. 2) which is etching the picture, to touch with a camel-hair brush, dipped in liquid (No. 3), those points of the picture where he wishes for an increased effect. This simple process often causes the wished-for details to appear, and that, sometimes, with great rapidity, so that caution is required in the operator, in using this weak solution (No. 3) especially, lest the etching liquid should penetrate to the parts which ought to remain white, but in skillful hands, its employment cannot fail to be advantageous, for it brings out soft and faint shadings which improve the engraving, and which would otherwise probably be lost. Experience is requisite in this, as in most other delicate operations connected with photography; but I have endeavoured clearly to explain the leading principles of this new process of engraving, according to the method I have hitherto found the most successful.

A REPORT OF TABLE TALK—ON WASHING PHOTOGRAPHS.

The lamented Soyer has taught us what a noble art is cookery—how the destiny of nations and the happiness of individuals may depend upon the skill of a *chef de cuisine.* Vice is bile—the ancients were not wrong in locating the soul of man in his stomach. Passions are appetites in something more than a figurative sense. An analysis of food throws more light on the motives of action, than your hair-splitting metaphysics. A good dinner has inspired the timid soul to many a deed of heroism. Who doubts that Hercules was a beef-eater, and Dryasdust fed on husks?

The Reporter has made this preface in order to make it more plain, that among the artists and literary men who frequent Ittner's celebrated Restaurant in Grand Street, two or more photographic artists may be found every evening, between the hours of 6 and 7. And when the photographers are gathered around the same beautiful board, everything conduces to a good-natured and sometimes exhaustive discussion of matters pertaining te their art. Printed ideas are generally first spoken; Homer's heroes used winged words (pteroenta.) So, nowadays, perhaps from the gregarious nature of all feathered tribes, our words in conversation attract others of the same sort from our companion.

(Here the Editor interferes, cutting short other brilliant ideas of the Reporter, and insists on the immediate production of the report, a plain print unvarnished.)

C. J. (loquiter.)—My Yankee friend Gay tells me he has contrived a machine for washing photographs. Brady thinks an improvement on our present methods is quite desirable. I have a high opinion of Gay's ingenuity; but, although always at work, inventors have not contrived any popular machine for washing dirty clothes.

To which S. A. C. (resp.)—The problem of washing a photograph is simply stated:—Paper is impregnated with a solution of a salt, soluble in water, which is to be removed. Now, theoretically and mathematically, the whole of the salt cannot be removed by any washing process. I think we may reasonably search for some chemical means by which the deleterious hypo may be converted into something inert.

C. J.—Yes, indeed. But leave that to the chemists. And while we wait for them, let us contrive a machine. Any machine for the purpose would require little power; croton power might be used in the city, or the coiled spring anywhere.

S. A. C.—Well! I would propose that the wet prints be passed between two cylinders, the pressure being regulated by weights or springs. Thus you see that the hypo would be forced to come out more effectively than Graham's Onguent compels the beard to grow in six weeks.

C. J.—Your cylinders would drive out the hypo, but your prints would be stretched out of shape. Two rollers would not do. What do you think of one? Let the prints be attached by one end to a large revolving drum partly under water.

S. A. C.—It would be necessary to have your drum revolve alternately in different directions, in order that both sides be washed. This would be a little awkward. I would prefer to have the prints attached by their ends to a swinging frame with a motion like the Indian punka or the clock-work cradle.

C. J.—I acknowledge your improvement. But here is something quite different. Lay the prints on a gauze or wire frame like a sieve, and sprinkle them with the shower bath contrivance.

S. A. C.—Our machines are all on the correct principle in one respect; they keep the paper in a current of water. The ordinary method of soaking very poorly answers the purpose. The hypo must be got out soon, or the prints become overtoned, lose their brilliancy and begin to fade. The troughs arranged like steps, with a constant stream of water passing through them, are always made too deep.

Now the quickest and surest plan of washing a print is to alternately wet it in clean water and press it between sheets of blotting paper. In this way I guarantee to wash a 4-4 print in five minutes, with a pint of water, more effectively than is commonly done in twelve hours, This plan is, however, expensive, and somewhat troublesome. Warm water, of course, does the work sooner than cold.

C. J.—Louis! Bring the segars.

ON ALCOHOLIC COLLODION.

BY P. C. DUCHOCHOIS.

The preparation of collodion with a very large proportion of alcohol is not a new improvement in photography; as early as 1853, or '54, Mr. C. Laborde formuled a collodion containing as much alcohol as ether, and recommended it, together with iodide of cadmicum, as one of the quickest. Since that time many formulæ have been given, either to suit different temperatures or to coat large glasses more easily and evenly; but, to my knowledge, the object of increasing the amount of alcohol has never been well defined, except to regulate the evaporation of the collodion.

I must confess I never made a special study of the alcoholic collodion, and that the object of the present communication is to induce our American *Chercheurs* to give the results of their enperiments on this interesting subject. Following the path opened by Mr. J. Cady, I add two or three observations made in working with collodions prepared with excess of alcohol on account of the excessive heat of last summer:

1. When the pyroxiline is of a contractile kind a great proportion of alcohol annihilates that property to such an extent as to permit the use of such collodion for dry processes.
2. An alcoholic collodion gives a film more divided, more porous, and consequently more sensitive, and insures intense negatives.
3. With collodion prepared with iodide of ammonium it is very often necessary to increase the proportion of alcohol to prevent the formation of the iodide of silver upon the film, which will then not take place even with a bath comparatively weak.
4. A collodion little iodized does not generally give so harmonious negatives, and is more or less contractile with almost all pyroxitines; but it is in very good condition to be transferred on paper or any other material.

In preparing alcoholic collodion, I found at first that the film was liable in drying to peel off, to crack, to split in little networks, but this being always due to an excess of water in collodion, I early got rid of it by using almost absolute alcohol.

Now this question arises: To what extent can alcohol be employed in collodion? I know some American photographers who have used with perfect success a collodion more than three parts of alcohol to one of ether, and that an English amateur author, to whom we owe a great many improvements and good theories in photography, operates with six parts of absolute alcohol to one of absolute ether, but indeed I do not see the necessity of such an augmentation since the same results can probably be obtained with a great deal less; that so much alcohol must give a film without consistency, and that the great slowness with which the collodion film sets increases much more the chances of spots resulting from the dust falling on the film, etc.

As a rule, I should not recommend a greater proportion than that of Mr. Laborde—one part of absolute alcohol to one of ether, sp. qr. o. 72 and a proportion of pyroxiline, larger as the glass is smaller, in order to have a film of the proper thickness.

MR. GURNEY'S NEW GALLERY.

THE INAUGURATION.

Our reporter writes with a trembling hand—also his head aches. He was very well twelve hours since,—he could shoot at a mark with a physical gun, or a gun of the mind, and sometimes hit the bull's eye. But now, while the sun rises for work and great glory, the reporter would go to bed—like a sick girl, he cries: "Titinius, give me some drink"! But the editor (the devil of the printer is at his back) is inexorable concerning the fulfillment of the bond about a two page report. How hard is his fate. But take heart, my boy! Ten thousand men on all the continents and isles of the sea, demand that thou shalt not—in point of fact—prevent the prompt issue of Mr. Seely's journal to-morrow morning.

(The Editor.—No more nonsense now! Tel! what was done.)

The reporter, with the tools of his profession (a bb Faber and a Yankee sharpener), at an early hour last evening, eagerly set about his work. He looked into every room—he smelt of the chemicals—he read the labels—he put his finger in the bath—he teased everybody with questions. He was the child that took the notes.

You have an ill-temper, Mr. Editor. Would I lose my notes intentionally?

But fortunately something was saved: "No 707. Beautiful marble building—erected expressly for a photographic gallery —130 feet deep, 25 feet wide—four operating lights—one for old folks and lame people who can't get up stairs."

There were a great many people there last night. We knew that Mr. Gurney would be pleased to see his friends, and would treat them handsomely. What beautiful music we had from the band, and the grand piano! What a wonderful portrait of the Mayor. What a power of big men gathered together; how they congratulate Mr. Gurney; does his little hand ache this morning? His artists got up a speech, and handed Mr. Gurney a gold-headed cane. He made his thanks so gracefully! Why, Mr. Editor, if you should print the witty things that Dr. Rollins said, you would lose some of your subscribers, at least there would be a movement in the button business.

I didn't think grave (not a pun) doctors, and lawyers, and senators had such sweet voices for a cheer. We never hurraed for Jackson more lustily than we did for Gurney. The "Scientific American" was set up on a pyramid of baskets; didn't it make eloquent remarks? I holding his hat.

Mr. Gurney has been in the business almost twenty years. He is rich and famous. I think his hospitality last night was princely. What a fine looking man he is. How agreeable he must be to ladies. He shall take my picture some day.

(The reporter falls asleep).

EDITORIAL MISCELLANY.

——The cheap picture nuisance is going to be abated. Very soon, as was the case three years ago, respectable men will be ashamed to hear their names connected with "picture factories." Yet the fact that the business is disreputable, has not the potency sufficient to drive all men out of it, or keep them out. But it will not pay; that decides it.

The people for a few years back have bought pictures beyond their reasonable wants, because they were cheap, and cheap pictures were in fashion. But public taste is improving—people do not care about exhibiting themselves in dingy ambrotypes, and respectable folks do not visit picture shops any longer; picture shops are abandoned to the Biddies.

——Our friend, Frank Forshew, writes as follows:

"For the past year I have been a constant reader of your valuable journal, and I think it is what you intended it should be, indispensable to every operator in the photographic art. But you must let me have one *growl*, viz: that while the ambrotype and photograph have been written and talked about constantly, the daguerreotype, the first and most beautiful, and in the opinion of many the most durable, product of the art, is scarcely mentioned. I think this is too bad, when, if the truth were known, two-thirds of the people prefer a good daguerreotype to any other picture.

I think you will agree with me that the pictures made five years ago will compare favorably with the pictures of the present day."

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EXPRESSING CHARACTER IN PHOTOGRAPHIC PICTURES.*

BY E. K. HOUGH.

In all ages mankind have sought ways and means to preserve representations of beautiful forms.

Marbles, metals, woods, colored earths, and chemical pigments have been pressed into the service of art, in its various moods of carving, moulding, printing, and painting. And in each of these varied departments, there have been the first weak beginnings, when the inexperienced mind and the untrained hand struggled to so use these materials, that the radiant beauty and expressive character that gave value and interest to the forms they represented should be preserved; and as evidence that for many years they failed to attain their ideal, see the grotesque carvings of ancient Egypt, where, amid herculean labors, there are gleams of beauty just sufficient to show that the native talent of the artist was foiled by mechanical necessities of the materiais he sought to impress with grace and meaning. Then trace the progress of art in ancient Greece, where the marble and canvas were made to glow with inspiration; where all difficulties of mere manual skill disappeared, and the passive stones became as pliant to receive forms of beauty in the conceptions of genius, as words become music to express the thoughts of eloquence.

All the principal arts had their beginnings far back in early ages of the world, and their triumphs of to-day evince the benefit derived from the accumulated experience of centuries.

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* Continued from Page 187.

But the advent of photography is of very recent date, and its effects are reached through chemical and mechanical agencies so singular, so different from those commonly known in other arts, that for a time attention was principally confined to them, and the men who adopted "light painting" as a practical profession, seemed to obey the old proverb, "never look a gift horse in the mouth." They thought it wonderful that sun-light should have such power of picture painting; but, finding it had, they were not disposed to criticise the performance too closely, but to take what was given them without murmuring.

We can readily imagine the first practitioners of the new art, having carefully obeyed a formula, for any part of which they were not prepared to give a reason, except that their teachers told them to so do, waiting anxiously the few seconds "exposure," powerless to aid the operations of the strange, imponderable force, which had come ninety-five million miles to serve them, if they but duly complied with its requirements. —we can readily imagine them, actuated by the same spirit which filled the old magicians, while strictly obeying the prescribed rites of incantation, then waiting with the reverent awe of unreasoning faith for the mysterious genii they had invoked, to appear and obey their will. But the days of mystery in photography are nearly gone. The experience of twenty years, in the nineteenth century, is better than a hundred among the ancients. During those years, some of the most active minds known in the annals of scientific investigation, have traced its effects back to their causes, and again combined those causes for the production of new effects, until its chemistry and mechanics are as much at command as in any other art, requiring only proper knowledge and average skill. The results of their investigations are published broad-cast through the land, and to the operator who is painfully practising with limited experience and imperfect theory, I will give the advice that directed Sir William Jones, when a youth, to the paths of learning and greatness, "Read and you will know," and the knowledge will set you ten years in advance of the methods you now employ.

All art students know that the chief power of the old masters in portrait painting, was the ability, while watching the changes and expressions of the sitter's countenance when unconscious of the scrutiny, to keep in mind the best, and after the general form was obtained, to paint them in from memory; and, moreover, the power of judging the character of their subject, and from study of his features, painting expressions they never saw him wear, but which they could imagine he must wear, when his mind was in its most genial and active moods. Such power as this is useless in photography, yet character must be reached and expressed, else the demands of true art are not satisfied. Outward expression is the revealment of inward feeling, and moods of mind and sentiment are very much under the influence of what affects the senses

What then are the best influences that can reasonably be brought to bear on the senses, and through then at the moment of impression, exciting the mind to activity, giving an expression of intelligence and pleasurable feeling, that shall give such photographs a higher worth, and make them more inestimable treasures than one in a thousand now taken. No artist would deny that he could not compete for a day with one who had the best expression of his sitter's as much under controll as the chemical processes now are, and that therefore any reasonable means of effecting it, even partially, are worthy of consideration.

Almost every operator is ambitious of having what is called a "nice place," and he fits up his room as richly as he can afford, but he usually makes one fatal mistake: he puts his wealth and beauty in his reception room, while his operating room is left comparatively unfurnished,and comfortless with the dirty paraphernalia of the art scattered about, and a strong, disagreeable odor of chemicals prevailing.

Where this contrast is carried to excess—as it often is—it cannot but have a bad effect, especially on sensitive natures, and although unconscious of it, it is none the less real, and worst of all, it is at the very moment when a pleasant feeling is most important as influencing expression.

The operating room should be fitted up with far the greatest care, so that, mayhap, a delighted surprise shall irritate the countenance when ushered in, rather than a chilly impression of barrenness and poverty. All signs of the workshop should, if possible, be removed from sight; all chemical effluviae carefully suppressed or counteracted by the aroma of growing flowers, and the perfume of fragrant waters.

The eye should be soothed with soft and pleasing colors, and the ear charmed with the melody of singing birds, and the mind diverted from a consciousness of self by paintings, engravings, and statuetts, all having vivid and interesting meanings, awakening emotions that impress the features with corresponding expression, and the skylight also, whose necessarily strong rays are the banefull origin of frowns and blinkings, equally painful to the eye of art as love, should be subjected to the test of science, and made to correspond with its requirements.

The discovery that light can be strained, as it were, through transparent media and the wished-for color admitted, and all others shut out, and that certain qualities accompany certain colors and not others, does not seem to have received the attention it deserves There are but few, even yet, that relieve the gloom of the dark room with the yellow light, and fewer still are known who have applied the principle to the skylight.

But it is true that the strongest chemical rays are found in union with blue, the softest and most agreeable of all colors to the eye, and the one with which the Creator has curtained the heavens.

It were well to institute experiments for finding the kind and tint of glass which admits the most of the actinic rays and shuts out most of those strong in useless glare and heat. Curtains do this very imperfectly, darkening rather than sifting the light, while a properly colored transparent medium would admit all that were useful, and shut out all others.

Meanwhile, as now constructed, it were better to prevent the direct rays of the sun ever falling on the operating light, by blue or white curtains on the *outside*, stretched on upright frames, or hoisted and lowered like sails, so as to shield the windows, without obstructing a clear view of the sky. All these considerations are but means of inducing in all visitors an easy, comfortable state of feeling.

But as it is absolutely necessary that the operator should decide upon some position, and assist them in its arrangement, it is also necessary that he should have an opinion of their predominant peculiarities; those points of character by which they are best known, and for which they are most admired, that he shall in no way conflict with their expression. He should form this opinion before he attempts to place them, and should arrange all the accessories to correspond. In position he must remember that every organ and every faculty has a special language. A proud man carries his head erect, a little thrown back, and with a stately air. This is the language of self-esteem; and to arbitrarily place him with his head bent ever so little in an humble way, would detract from the likeness. Love of approbation, when excited, draws the head a little back and to one side, and every operator has noticed that women would nearly all sit with their heads thus bent if not prevented; and also, the arch curl of the neck on receiving a compliment.

A deeply thoughtful and imaginative person sits with the head bent forward and to one side, and the eyes look away with a sort of dreamy abstraction, and to give such a bolt-upright, stareing position, would be stupidity.

It is necessary to note these signs of character in each, and be careful to preserve them in the likeness the same in KIND but different in DEGREE, as shall be deemed proper.

The lady who habitually carries her head inclining sidewise, should be allowed to do so still, but not in an exaggerated manner, for the amount of deflection proper and agreeable in life, or a life-size statue, is apt to be disagreeable in a small miniature; the rule is to have it leave the same impression as in life.

But more than this, it is best to have means of inciting a particular faculty or class of faculties to action, and thereby get their expression. Properly directed conversation on the required subjects is undoubtedly the best, but there are many useful auxillaries, one of which is a series of engravings easily moved to proper positions to receive attention. The picture chosen should be of such size and distance as to be viewed without effort or movement of the eyes, and should have an obvious meaning, Thus, a benevolent nature might be stirred by a scene of unjust suffering—not one to incite horror, but a tender commiseration.

A brave, proud nature, might be moved by a representation of two or three ruffians attacking one man, who was defending himself with an expression of firm resolve and haugnty courage.

A few remarks directing attention to these just before "exposure," as meritorious pictures, and lastly, as the point of sight, would have a favorable influence on the resulting picture. It must be remembered that persons in a room arranged according to previous suggestions, would be in much more favorable moods for receiving the required impression than in ordinary rooms.

Sufficient has been said to indicate my meaning, and I think such a room conducted by a person of intelligence, who could hide all appearance of endeavoring to so influence behind easy, affable manners, would meet a greater success than has yet been seen. Of course he would require better pay than some do, and he would get it.

Such a "room" would not be a "picture factory," but a place where art would dwell as a spirit in its own native atmosphere, and such an artist would find room for all his ambition and scope for all his powers.

RECOLLECTIONS OF A DAGUERREAN TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

Opens a Gallery--favorable prospects--bad weather.

Bristles was of course glad to hail my arrival, and well he might be, since he had not, though over a month in London, in the least facilitated our business; not only had he not obtained a suitable building, but had not even one in his view; he had prefered awaiting my arrival, so that all the advantages of his pioneer visit was lost- It would of course have been better for me to have made the pioneer visit, had such a visit been necessary, since I knew the place and Bristles was a stranger; but as I had my own business to close,—he was shrewd and had confidence, and I had withal, given him letters to my brother Porlue located there, and to friends, together with full instructions to act; it was the best plan under the circumstances, in order to get open at the end of the summer, when the denizens would return to London. However, as no time was to be lost, we soon fixed on a house in Oxford Street, certainly not the best situated as it proved—not so good as supposed—but the best to be obtained without too much delay. A branch had in the interim been opened in a great thoroughfare, but poor business place; only think how we were to astonish the natives—oh! we monopilising Columbians! But no, not monopolising; were we not about to confer a benefit on the Bull-ions by given them portraits of themselves and of each other, at prices that placed them within the reach of the humblest; affections could be gratified with the presentments of relatives and friends, for a small sum; (our circular), how philanthropic, pure benevolence, of course, but quite as sincere and disinterested as most benevolent schemes, adapted to earning superfluous bullion.

Soon we had carpenters tearing off roof, without consulting the parish surveyor—we were not to know that were necessary—putting in skylights, up benches, &c. Painters and paperhangers hard at work, each in the other's way; furniture going up and carpets down—did'nt we intend having a place—reception room on first floor, gallery on top, bachelor's hall in the middle; slightly, yes, no half-way measures, do it tip-top. At last, much too slow for my impatient spirit, and certainly not with the accustomed speed of Jonathanions, the last week in September, we had our show case out, and the newly painted, red-brick, white-mortar, front, *a la* America, displaying in large letters,—"The American Daguerreotype Gallery." Of course we were very anxious to try our new light; due north, angle of forty-five degrees, according to rule, and in defiance of native custom, of four sided scuttle; self-sufficient geese that we were, for not adapting ourselves to the necessities of the climate.

Before the damaged ceiling was repaired, or the glass in the skylight, we had the first trial, and a most successful one it was; another and another satisfied us we could take pictures in London.

At last all was ready, customers included, for some came on the strength of the sign before any specimens were exhibited at the door. Show cases after the most approved New York style; one a showy variation—a mass of gold, fitting in the angle of the door. (Customs are generally exaggerated when transplanted.) An opening supper was of course necessary, a custom properly continued here. "The pleasure of your company is requested to our opening celebration, on October 2d. Yours respectfully, Skylight & Bristles."

A very pleasant party was assembled at the Daguerrean "Soiree," a good word that, and a good time they had. A most decided conquest was made then, but that is no one's business. Speeches were made; is there a chance of being denied, if I say they were eloquent; are not all convivial speeches outbursts of eloquence—every jollification "a feast of reason and flow of soul;" is it not written on the tablets of memory, that this "soiree" was a success?

Business began to rush in, the prospects were decidedly good, for two or three weeks we did very well; our books began to show a number of engagements; but alas, the weather, oh that horrid weather; sorry, Madam, too dark to day, and yet, to-day, and yet sorry another day; can we ever keep an engagement? Sometimes we would try casuals, and be successful; often would we have to sit our visitors five minutes, sometimes ten, and more than once risked and obtained a picture, saleable at that, after fifteen minutes exposure. O patience! I certainly admired the patience of our customers more than my own; only fancy allowing a sitter to remain before the camera long enough for you to walk a mile or make your toilet; it could'nt be expected often; and thus the weather continued, until, as good luck would have it, the day the Duke of Wellington was buried, being a very fine day, we were as busy as bees, and hauled the cash in like fish in a net. Meanwhile, it was not to be supposed I was not being posted about the success and qualities of other artists. With a few exceptions, such as Moyall, Claudet, Hanneman, Beard, Dellamet, Hogg, &c., who were A. 1., there were as miserable pictures turned out in London, as need disgrace the art, and, strange to say, the worst in the profession were Frenchmen, natives of the land of its birth. So very many black pictures, or muddy backgrounds, were exhibited, and in those places where the poorness of the pictures excited my curiosity sufficiently to see who made them, I was met in a language I could not speak. The superiority of our pictures over the masses, and the fair comparisons with the high-priced artists, gave us great encouragement; nevertheless, I do not pretend either of us possessed more than good taste and fair manipulative properties at that time, as an incident will prove. We had a half-size camera, which we thought a very goad one before leaving New York, but which, strangely enough, would not allow us to obtain a sharp picture, so we sent it to an op. tician to be re-ground; after waiting some days he sent for the box and object glass, since he had ground the lenses, and could find no advantage; the glass had been punched out, and without due thought, been put back wrong side in the frame, and neither of us was smart enough to think of that before condemning the lenses; doubtless, we paid for the discovery. and not for the grinding. Our bellows boxes, iron camera stand, and preservers, were viewed with much interest by the profession, and were probably the first articles of the sort introduced into London, as also the embossed cases, which folks said would not take, the taste being for plain, but which soon were almost the only ones we could sell. Before leaving New York, I had bought out the stock in trade of a case maker, tools, boxes and all, and soon we were extensively engaged in making our own cases, so that for a long time we had but little to buy on the spot.

The prospects of a fine trade and expectation of a legacy Bristles had left in Ireland, and which was one of the reasons for his early departure from New York, led us into a speculation outside our business, the particulars of which I will give in the next paper, with its results.

PHOTO-LITHOGRAPHY.

SPECIFICATIONS OF CUTTING & BRADFORD'S PATENT.

This invention has for its object the production of a photographic picture upon the surface of a lithographic stone, from which impressions may he taken by the ordinary process of lithographic printing, by which we are enabled to greatly multiply the results of photography, and to avoid the tedious and expensive process of drawing upon the stone by hand, as at present practised. In the ordinary process of lithographic printing the surface of the stone, after the drawing is completed, is washed or coated with a solution of gum arabic in acidulated water. The gum thus applied enters into a close union with the surface of the stone, or adheres with great tenecity thereto, so that it cannot readily be removed by washing, and thus protects it from absorbing the ink employed in the printing process. In the process of Photo-Lithography it is found, however, that the gum arabic adheres so closely to the stone as not to be readily removed by washing from those portions not fixed by the light. On this account, in the experiments heretofore made in Photo-Lithography, it has been found impracticable to employ this gum, and a solution of gelatine has been used in its stead. Stones thus prepared, however, yield but few impressions, and are of comparatively small value in the arts. To remedy this difficulty is the object of this invention, which consisis in the employment of gum arabic which has been deprived of its power of intimate union with the stone, at the same time that it is rendered capable of becoming fixed or insoluble by the operation of light. When a stone, treated with the above-prepared gum, is subsequently submitted to the action of a solution of soap, the unlighted portions of the gum are readily and expeditiously removed, while the lighted portions are not injuriously affected thereby, at the same time that the soap performs its well-known duty of forming the insoluble soap upon the stone to produce the body or printing surface. The stone, after being prepared in a manner which will be more fully explained hereafter, has the following solution applied to its surface:—Water, one quart; gum arabic, 4 oz.; sugar, 160 grains; bi-chromate potassa, 160 grains; the sugar retarding the immediate fixing of the gum upon the stone, and the chromic salt causing it to become more firmly fixed or much less soluble on exposure to the light. The stone thus prepared is preserved in the dark until required, and when the coating is dried it may be exposed in the camera a suitable length of time to fix the gum upon those parts of the picture where the lights are to appear, or it may be covered by the print or picture to be reproduced and exposed to the light. After it is thus "lighted," the stone is washed with a solution of soap, which attacks the stone, temoving the coating and fixing itself (or an insoluble soap formed by the mutual decomposition of the stone and the soap employed) upon the surface in place of the coating removed. Where the gummed surface has been entirely protected from the light, the gum is easily removed, and the soap has free access to the stone, and the consequence is a thorough union of the soap with its surface; where, on the contrary, the lights were strong, the gum having been rendered much more insoluble, is protected from the action of the soap, and is not affected by it; and at all intermediate points the effect of the soap upon the stone is inversely proportionate to the extent to which the gum was fixed by the light. The most delicate grades and tints of light and shade may thus be produced upon the stone, true to nature as the photographic picture itself. The stone having been thoroughly washed with clean water, and dried, now receives a coating of ink from the roller, which, uniting with the soap already deposited thereon, serves to give additionol body to the picture, and shortly after the stone is ready for the printer; the portions which have been protected by the undissolved or "lighted" gum when wet resisting the ink. Previous to the commencement of the above-described process the stone is to be prepared, and this preparation will vary according to the nature of the picture or subject to be produced. If it be a manuscript, a lithograph, line engraving, or any plan or line drawing without gradations of light or shadow, running the one into the other, a polished surface may be employed. This will not answer, however, so well for portraits, landscapes, and a great variety of other pictures in which the variations of shade blend the one into the other: in such cases it becomes necessary to give the stone a roughened surface, or, in the language of the workman, the stone is "grained." Into such a surface the chromated solution of gum sinks deeper, and is then removed more or less according as it has been fixed by the light, and thus the required variations of intensity and the gradations of light and shadow are produced. Where a polished stone is employed the chromated gum lies upon the surface, and it is found that the variations of light and shadow cannot be produced with that nicety necessary to make a perfect graduated picture such as a portrait that shall be easily printed.

In preparing the chromated solution the proportions of the ingredients given above are by no means rigid, though they are those which we have found to answer the purpose. The sugar we have found also may be replaced by other substances, such as molasses, acetic acid, or various acetates not decomposible by the bi-chromate of potassa. We do not, therefore, confine ourselves to the exact proportions given above, nor even to the use of the exact substances named, when there are equivalents for them which may be used in their stead without departing from the essence of this invention. And in place of removing the unlighted portions of the coating by means of the direct application of soap, they may be washed off with water, acetic acid, or their equivalents; oils, resins, or printing inks being applied after the stone has been dried for the purpose of forming the required insoluble soap in the stone; such a process is the entire equivalent of the one above described, although it is neither so expeditious nor so efficient. The quality of the soap employed is not rigid, though those containing a proportion of resin will in general give a better result. The strength of the saponaceous solution is not material; ½-lb. of soap to six quarts of water has been found to answer the purpose. Heretofore this process has been spoken of as applied to lithographic stones, but there are other substances which may be employed in lieu of the stone to which it may be applied, one of which is zinc, which has been heretofore used by printers as a substitute for stone; in the use of this metal an insoluble soap of zinc is formed instead of one of lime.

Having now set forth the nature of this invention, and explained the manner of carrying the same into effect, we wish it to be understood, that under the above-recited Letters Patent, we claim the employment of gum arabic, deprived of its power of intimate union with the stone by means of sugar or its equivalent, as set forth, and in combination with the above we claim the use of soap, as set forth, for the purpose of readily removing the unlighted portions of gum and of forming the printing surface, as described.

PHOTOGRAPHY *a la* FRESCO.

BY H. GARBANATI.

The dark ages, as we know "the feudel times" were remarkable for the dawn of modern art; the middle, for perfection; for, though we are apt to speak of the painters of those days as the old masters, they yet inaugurated the style of painting our foremost artists are so anxious to emulate and adopt as models; with the single exception of perspective, the variations of the styles of present paintings are merely simulations of current events, and by no means improvements on the past; like the drama, the art of painting had its greatest masters almost with the introduction of its style; so great was the appreciation, and so large the supply, that the wealthy engaged the most celebrated painters to place their ablest productions, as fixtures on the walls. The walls were certainly built with a regard to the resistance of the corroding hand of time, and the proprietors, probably thought painting could not out-last them, though it is more probable the pride of possession, the desire of retention in the family of original productions, held the strongest sway. The fact, however, is extant, that some of the *chef d'oeuvres* of the most wonderful painters who ever held a brush, are in fresco, much to the regret of modern times. Present money-holders are not so lavish of their cash; possibly, they have an eye to the future, and a thought for the unsubstantiality of our buildings, that so little, and that third rate, fresco painting is done.

The taste for good painting is not less, judging by the enormous prices paid for "Old Masters," and occasionally for new; certainly, the taste is more extended, and though more of the school of Von Daub is current, it is only a sign of progression; the admirers of the Von Daubs will yet be elevated into appreciators of Titians, Michael, Angelos, Raffaels, Turners, Landseers, Churches, &c.

With the knowledge of the taste of the past, and the tendencies of the present, why should not the modern art of Photography contribute its quota towards wall decoration? True, it would be expensive; true, also, it would be novel and pleasing; it is quite practicable, and will yet be the mode; the means are already provided—the *man* is required to commence the work. The megascopic camera is admirably adapted for the purpose; through a small negative, a fine image may be depicted on the wall, opposite the light, say fourteen feet square, embracing the height of a large sized room, every part will come up as sharp, proportionally enlarged, as the original negative; to insure a perfect picture, all the length of the wall, it could be taken in sections, the part to be taken isolated by a screen, and the part taken covered by one, so that the picture could be continued. For this purpose, the wall would have to be covered with the proper paper, the lower part overhanging the shirting board, and terminating in a trough attached to it to catch the drippings, for the purpose of saving the floor and avoiding waste.

The process would be exceedingly difficult, but so much greater the skill; yet what artist will own it possible? The image can be made to cover the wall, and the wet paper will retain the moisture a sufficient time for an impression; then shall we say there is not skill enough. Perhaps, the wall may yet be prepared with a meterial, other than paper, capable of receiving a photographic impression. America has introduced the means, shall she be the first to avail of them?

PHOTOGRAPHY IN NEW YORK.

In our day, we have acted on the principle of Moliere's doctor who studied Hippocrates chapter on hearts," *Nous avons change tout cela.* When we want a protrait taken in this age of Jefferson Davis, we go like the Peruvians to the temple of the Sun. We brush our hair, sit down in a chair of state—with or without a couple of knobs like petrified oysters behind the head to hold it in position,—call up a smirk, look into the muzzle of a camera obscura, taking care not to wink, and in a matter of twenty seconds they have us and can produce us a million times if they please or if we choose to pay for it. Complaints as to the correctness of the likeness, if made at all, must be made to a Great Body who would care nothing about them. The sun is the artist, and you can get no redress in that quarter.

Photography, or the art of "writing by light," cannot be called a new discovery. The fact that objects could be copied, by means of rays of light, on metal chemically prepared, was known long before the present century. Nothing practical, however, resulted from this knowledge until the year 1802, when Wedgwood & Davy, two Englishmen, applied it to artistic purposes. But even their efforts were unproductive of more than an initiation into the first of a series of mysteries which was left to Daguerre, Talbot, Archer and others of a later day to comprehend and take practical advantage of. All sorts of "types" have since been introduced, from the Daguerreotype, which was the first, to the Ivorytype, which is the latest.

This art of writing by light, which is a very different thing from light writing, is now one of the great features without which the "elephant" of our city would not be at all complete. There are, at the smallest estimate, two hundred "galleries" so called in Broadway, the Bowery and the several avenues—where, on an average about 50 pictures are daily taken at prices varying from 25 cents up to $750 each. These employ Daguerreotype meterials of domestic manufacture to an amount which we have found it impossible to estimate clearly, but which is on all hands agreed to be over $2,000,000 per anum—besides the cost of Photographic paper and certain chemicals which are imported from England and France.

Of course, at some of the minor galleries, where excellence is not so much of a consideration as cheapness, the pictures are less remarkable for beauty than for a certain glassiness of eye, and pitch-and-tarriness of expression, which mar their effect in an artistic point of view, though they may be bearable under pecuniary consideration. But, in the best galleries of this city, photographic protraits have been produced that have not been equaled in Europe. European photographers attribute this fact to our climate.

The prevalence of "blue light" is the theme of their most elaborate theories. But so far as photographic excellence depends upon atmospheric influences, the palm must be given to India, where pictures have been produced of yet unapproached intensity in the effects of light and shade.

Photography has become so great an institution in this City that it builds "marble halls" for itself. GURNEY has just opened, at No. 707 Broadway, a sort of Photographic palace which he has erected for the purposes of his business, and with a special view to its requirements. Discarding the practice of sending customers up three or four flights of stairs to an operating room which the sun can get at, he receives them in the ground-floor—shows them his pictures, cases and so forth, takes their orders and passes them forward to his main gallery, on the floor above, from which they enter upon a ladies dressing room on one side, and an operating room on the other. This latter apartment is provided with side-lights and roof-lights, so that in the event of his having a customer more "wrinkly" than usual—in which case the roof-lights, are insufficient—GURNEY usually smoothes down the creases with the side-light, and somewhat rejuvenates him by the process. When the operating rooms below are full, which would seem to be a common occurrence at this establishment, there are others on the next floor, which are, however, mainly devoted to the artists, who are there, in great force, to finish the photographs. These are taken of all sizes, from the "locket minature" to the "life," sometimes containing only the face, at others giving the bust also, and not uncommonly the whole form, of the size of life. These last pictures are very costly, but they are also very beautiful. They are characterized by all the delicacy of tint and shade which distinguish the oil painting, since indeed they undergo in all respects the same operations, save as regards the features portrayed, which are taken by the sun, and therefore must perforce be as correctly delineated as they would be in a mirror—and much more so than they are likely to be when drawn by the hand. This remark applies equally to the smaller sizes, and to those which are colored in *aquarelle* or in *pastel*. Mr. GURNEY exhibits in his main gallery, with becoming pride, the medal awarded to him by the French *Palais d'Industrie* for the best picture there exhibited in 1855,—the great silver pitcher called the "Anthony Prize," which he obtained here on similar grounds,—and several medals awarded to him by the American Institute.

Of the various "types" which are more or less advertised, GURNEY confines his operations to the Daguerreotype and the Photograph. He objects to the Ambrotype on the ground that it is not durable, which is another proof of the way in which even Doctors will disagree, since BRADY declares the Ambrotype to be the most durable picture made. The Hallotype is made at GURNEY'S when ordered, but is not a fovorite with him. The differences between these kinds of work are that the Photograph is thrown on the canvas or paper, and afterwards colored;—the Hallotype is colored by transparent painting put on from behind;—and the Ambrotype is taken on one piece of glass and covered by another, the atmosphere being excluded by a balsamic cement, which secures the surfaces to each other.

GURNEY'S rooms are not only the most easily accessible in the city, but are handsome and pleasant by reason of the much light which, in the construction of the building, he has taken care to provide for. He has added to the long array of pictures in his own line of art which grace his walls, a row of oil-paintings by various native masters. He does this ostensibly by way of adding to the other attractions of his gallery, but our opinion is that the artful fellow has hung the oil-paintings up to show, by contrast, the superiority of the Photographic article. Nevertheless, there are, among some very poor productions, and some other very fair ones, a rural water scene by WILLIAMS, of Philadelphia, and two marine pictures by LANE, of Boston, which it is good to go to GURNEY'S and see.

BRADY also has some admirable photographic pictures in his Galleries, of which, like GURNEY, he has two on Broadway, and if he has not quite such elegant or comodious rooms in his up-town quarters as GURNEY has in his, there is quite as much in his gallery at the corner of Bleecker-street and Broadway, and at his "down-town" establishment, where he keeps his principal collection of splendid portraits, to amuse you, and quite as polite persons to talk to you as there are at GURNEY'S, which is saying a great deal. There is a delicacy of work about some of BRADY'S miniatures which is as peculiar in its way as the bold and powerful finish of GURNEY'S larger photographs is in that branch of the art. At BRADY'S, the last new invention, called the "Ivorytype," which is said to surpass everything in the way of writing by light that has yet been effected, has just come out.

EDITORIAL MISCELLANY.

——A correspondent writes to *Photographic Notes* as follows:

"Will you allow me to set you right with regard to curing a nitrate bath by setting it in the sun. If you refer to the *Photographic Journal* for Nov., 1853, you will find Mr. R. Fenton says as follows:—'If at the close of a day's work the bath begins to show signs of an alkaline condition, it is easily restored to working condition, by exposing it to the sun's rays, &c.'"

The editor of *Notes*, by refraining from comment on the above, appears to abandon his former claim to the discovery of curing disordered baths by exposure to light. But we are not willing to surrender; in any view of the case we honestly believe we deserve a share of merit.

Now, on the supposition that Mr. Fenton, in 1853, understood the case as plainly as we have described it, his words, as above quoted, fail utterly of expressing it; interpreting them literally, he tells us simply that the sunlight has the effect of an acid, to neutralise an alkaline condition of the bath. The fact that sunlight will generate an acid in an alkaline bath is easily anticipated by theory; every one knows that alcoholic or ether mixtures pass more rapidly into the acetic fermentation under the action of light. By exposing a bath to light sufficient acetic acid is generated from the alcohol and ether in the solution to neutralise any small quantity of uncombined oxyde of silver,. A few minutes of exposure has precisely the same effect as a small quantity of acetic acid added in the usual way; expose to light, or add acid—it as all the same. We are unable to discover any other meaning in Mr. Fenton's words, and this view is strongly confirmed by the fact, that neither Mr. Fenton nor any other has attached enough importance to his discovery to speak about it for the past five years.

What we claim to have discovered is quite another thing, viz.: that a disordered bath, which is *not alkaline*, and which acid will not cure, may be restored to working condition by exposure to light. On page 20 we direct the bath in the beginning to be made alkaline; on page 46, we say the bath, after the exposure is left in the alkaline condition. It will be seen that we have considered the alkaline condition of little account, for a drop of acid is the simple and sovereign remedy. The disease for which we have prescribed the specific, is another affair entirely. That the discovery is useful, photographers in all parts of the country are willing to attest, and if it finally appears that Mr. Fenton, or Mr. Sutton, or any other than ourself, made it, we shall still believe that mainly through our exertions it was brought before the world.

Our European friends are a little slow. They spend two years in experiment and talk on nitrate of uranium, and now find themselves at the starting point. They make collodion pictures eight years and begin to learn that sulphate of iron is the best developer. They still use weak baths and thin collodion. About this cure of disordered baths they are silent, except that one editor positively assures an inquirer that he has known of one bath having been really restored to order by exposure to light, and suggests for a trial, that the solution be exposed in a shallow porcelain pan! But great bodies move slow, and perhaps next year we may expect a discussion of the subject in the photographic societies.

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[NEW SERIES.]

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RECOLLECTIONS OF A DAGUERREOTYPE TPIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

A new Speculation—Courtship—Marriage—Its results.

About this time there was quite a mania in England for raising Cochin China Fowls, or Shanghaes, as we here best know them. A Mr. Sturgen, purveyor to East Indian Ships, had been presented with a few pairs, by a sea. captain, and had raised such a superior breed of fowls, that he could get his own prices for them—as high as one hundred guineas had been refused for a fancy pair. Eggs were sold for a guinea and more per dozen, the mania extended to improving the breed of fowls generally. Spanish and Dorkins, well known in England for centuries, suddenly rose in value and fetched many pounds per pair. Porlus proposed that we engage in the race; Sturgen had made a large fortune in two years, why should we not have a chance; the mania was on the increase. He had a cottage and two acres of ground at Norwood where we could try the experiment, until we took a larger place together and went in strong. Bristles soon fell into the notion, his legacy would not be far off.—He did not know much of law and Irish lawyers, when we should have plenty of funds. I held out some time, and at last agreed, and by way of parenthesis must state, I have generally had cause to regret acting against my judgement. Bristles and Porlus became a committee to purchase and make themselves familiar with the qualities, values and habits of Cochin China fowls, and now commenced a race and chase in search of the nonpareils. I was left alone in my glory to take pictures. The weather giving me ample time for reflection, and occasionally the opportunity of proving my metal and mind, when people came up with a rush.

After a long search the committee secured the pick of Sturgen's stock of chickens, almost unfledged, for two pounds the pair, after a thort time more were added to the stock, when Bristles, Skylight and Porlus, commenced the business of breeding fowls and improving the qualities of England's feathered live stock common to table use. It was agreed that we look out for a large and suitable place, and the committee had a very good opportunity for two months, of posting themselves up in the geographical, topographical and sceneretical condition of London and its environs for twenty miles around, together with the value of real estate, modes of cultivation, wealth of the rural population and condition of the laborers, to say nothing of the mode of conveyancing and customary terms and conditions of renting by year or lease, houses and premisis with grounds attached, a knowledge of value in itself, even at their sole expenses.

Amongst the places of interest visited during my bachelor days in London was "Discussion Hall" in Shoe Lane. This place is rather celebrated for the gathering of men with talent much above the average of those who meet in such places, men of all ranks of practical life, who earn their living by head and hands — authors, lawyers, editors, reporters, artists, tradesmen, mechanics &c., meet and take part in the debates, and oftentimes may be heard as much real wisdom as in Legislative halls, though of course much that is stupid, and that has to be coughed down. A long room, built for the purpose, a row of tables down the centre and around the sides, with seats on each side, and generally having a full complement of occupants, each with his glass or pot, most with pipes or segars. At the end of the room, on an elevated seat, is the president, who generally manages to keep order, and immediately has ejected any troublesome person, or one in liquor, should one perchance drop in and be obtrusive. There may be seen gray-headed old men, generally conservatives, who take their usual quantity of usual drink, and retire at their usual hour. Middle aged men, just passed through the exciting ordeal of youth, and now giving a matured "aye, aye," or "hear, hear," and excited and ambitious youth, anxiously trying to catch the "president's eye." On the whole, Discussion Hall is well worthy a visit, the more especially of Americans, who are not generally remarkable for a debative turn of mind, though the accustomed hours of cessation from business gives them immense advantages over

European young men, to indulge in literary and philosophical practices.

At this time there was much excitement in America and England on the Fishery Question, which happened to be the subject under discussion on my first visit.

I soon availed myself of the opportunity of taking the Jonathanian side of the question, which had advocates already, though not very well posted. At first my decided opinion excited some surprise and slight dissatisfaction, which soon yielded to expressions of approbation. They rather liked the idea of a Yankee, as they called me, "sticking up for his own," and were inclined to put up with much stronger sentiments than from one of themselves, so I came off with flying colors, and though I may not have made converts to my opinions, I obtained much good will. Discussion Hall is one of the places since rendered famous from the terror it excited in French colonels.

In the meantime the weather continued its now usual course of rains, fog, mist, cloud, with intolerable mud when not raining, which was seldom the case for three months. From the rear of our work room we could see a church steeple and clock, our ready reference for time during the first two weeks. By and bye it came that we could see the steeple, but not the clock—not once for months—then no steeple. At last it became a rule, that when the steeple was visible, a picture was obtainable, otherwise it were useless to try. In our early experience, before our cash began to get low, we became acquainted with a very plausible fellow, a customer of Porlus, who claimed to be the secretary of a mining company, of which his father, a rich man, was president. This Scamp, I will call him, used to borrow trifling sums of money, and being rather fast, soon managed to get quadded for debt. At his urgent solicitation, Porlus visited him there, when he begged the loan of enough cash to get him out again, offering his piano as security, and a moderate sum as bonus. Though quite to the distaste of Bristles and myself we agreed to help the poor devil, upon his writing an order on his wife for the piano, or rather a request, as she professed to hold the household property as a special right. Bristles and Porlus got the piano, and Scamp got out of jail. He soon wanted more cash, but finding he could not get it, wanted the piano to get some on, but that being not considered quite modest, he became abusive and vowed vengeance.

Meanwhile we had taken a large house, with six acres of ground, at Barnet, for the purpose of scientifically carrying on our fowl operations, and were to move in, in a short time, but in the meanwhile an event occurred, which not only influenced the destiny of your narrator, for life, but changed the business aspect of things in a manner he little calculated on or bargained for. Meanwhile, the weather continued as before, the clouds frowned a forbidding defiance of photographic result, and St. Ann's Steeple still remained hidden behind her foggy veil. Many people called for pictures, but few took them away.

One morning a singular old lady came for and got a picture of herself. I had taken upon myself the laborious work of buffing, coating, and finishing, and left Bristles to attend to the sitting. Bristles called me, saying a lady wished to speak to me. Wondering for what reason, I walked into the operating room, when she introduced herself as a phrenologist, and seeing me for a moment in the room, thought she would like to tell me some characteristics of myself. She, amongst other things, informed me I should never fall in love from impulse and passion, but from reason. Query.—Are not almost all unhappy marriages the result of impulsive and passionate love—excluding those of convenience? Do not such lovers over estimate the expected joys, and is not mutual disappointment a common result?

Bristles and Porlus had by this time gotten the grounds at Barnet into trim, sufficiently for receiving the poultry, having laid off into "walks" for the different pairs of birds, according to their qualities.

At the house, where Bristles and myself kept Bachelors' Hall, I had obtained sundry views of a young lady, sometimes engaged in the beautiful exercise of "skipping." Good, says I, an excellent preservative of sound lungs and elastic movements, I soon made up my mind that that young lady should be my wife, if she were willing. The courtship had gone on, and we had very quietly gone out, with her brother-in-law, as a witness, and got married. In engaging in this very responsible undertaking, we had strangely enough consulted ourselves, not deeming, poor simple things, that any other people were as interested as ourselves, but alas for the shortcomings of human nature, our calculations were ill-timed.

The next day, Sunday, I was to go to the cottage of Porlus, where I should meet Bristles, who preceded me, knowing I was to escort a certain young lady, well known to them, apparently a favorite, when I resolved to introduce her in the character of the wife. But a change came over the spirit of my dream, the change seemed to take all aghast; Porlus and wife, and Bristles most especially, who fairly turned pale at the news. Possibly they thought I should have sought some wealthy partner, so as to bring cash into the business, but certainly the singular coldness that came over all quite surprised us. I afterwards heard that Bristles was indignant at not having been informed or consulted. But whatever the cause, from that time there was no peace, and the poor young wife suffered much from slights and neglect.

We now moved to Barnet, and soon learned the various notes in which fowls are in the habit of giving forth their joys and woes; from the little shrill, impudent voice of the bantam, to the deep bass of the largest shanghae. We bought a very large number of common fowls to hatch the eggs of the valuable ones, the eggs of the common ones to be for the family use of the families, Bristles boarding with Porlus; but somehow our eggs seldom seemed to be laid, since a few came to our share; everything going on quite unpleasantly, ill words were common, when the threatened vengence of Scamp temporarily united in our interest—Bristles, Skylight and Porlus.

A LETTER FROM GOSSIP.

ELGIN, Dec. 18th, 1858.

"Do tell" what's astir in New York? anything wonderful? has anybody yet managed to take a picture by the Atlantic Telegraph? a lady at one end and a camera at the other; has no one yet made a camera of a pencil case, and a stand out of a tooth pick? Can anybody prepare a sheet of letter paper, that one's face may be depicted on it when writing, giving a true expression of his thoughts: or, possibly some artist has managed to fix on a plate the last impression said to be depicted on the lens of the eye, or perchance some wonderful liquid has been made from brass, as from a nobler metal, to serve as a preserver to ambrotypes, or a precious stone inferior of necessity to the one now in use, has been forced to yield its virtue for the same purpose and spread its surface o'er the decent collodion? In earnest, is anything doing? is our old aquaintance "Business" located thereabout? Mayhap some clever photographer has managed to acquire means most wonderful by which he can take the public in and do their portraits for a little less than nothing, thus securing all the trade and the profit of it; for the fact is, here stagnation keeps pace with business somewhat slower than a snail's gallop; as stagnant as Lethe's waters, is the hitherto agile "Trade." I feel as dull as a razor's back and am inflicted with ennui. "How are you"? says a brother photo. whom I meet on my travels, "I'm anxious to know if I am the only chosen one of the goddess of idleness?" Don't be alarmed my good fellow, all will soon be right, of course it will; catch a weasel asleep as readily as Jonathan long inactive. But I have a motive in writing, supposing I should trade pictures for provisions. Will you take them at a price? stir up trade, plenty of provisions in the west, lots of wealth, but no cash! It is only requisite our wealth and yours should meet, when they would rush past each other and seek other possessors; that is trade: am not I a philosopher? by the way, what is an Ivorytype? I see an advertisement in the New York papers of such. I have seen very fine oil paintings on niellograph paper; is that the thing? enlighten me, I pray you, that I may know, post me up that I may not be a regular "stick:" heavy is the weight of ignorance that prevails in the art; ponderous the stupidity of unreading artists, but blame me not if I know not all your types, for their names are legion: do not, for I seek to count them. Seek I not in the pages of the Journal of Photography?

I see some of you New Yorkers rejoice in the name of "Picture maker," and call their laboratories "Picture Factories;" people are no doubt squatted, a camera pointed at them like a dahlgreen gun, which is duly charged and fired, and the pictures shot out like meal from a mill. Yet these men are artists forsooth; they are fully posted, can learn no more, are filled with photographic knowledge to repletion, are about to burst with excess of wisdom, are overflowing with information, filled by a liberal hand, like a wassail bowl at Christmas. Ye pencil rays of a generous Sun, and all provider of the elements of a noble and far extending art! Apollo, god of artists; Mercury guardian of the same,—and Thieves, alas!—protect us from such desecrators of art and artful dodgers; find or invent some other name to know them by, and inspire, if you would preserve the principles of true genius and pure talent, inspire, I beseech you, all lovers of high art, aye, and the masses of mankind with a full appreciation of their appropriate title, that they may be known by no other, and honor and cash be rendered to whom honor and good pay is due.

Gossip.

MY FIRST DAGUERREOTYPE.

There never was anything like it. True, a multitude of "types" and "graphs" have been brought out since then, and glass and paper and iron and leather and divers vehicles have been covered with impressions, and I have seen them, but nothing ever filled my eye so completely as that first daguerreotype.

For hours I have held it, carefully noting all the soft minutiae of light and shade: and still the little rough-edged silver tablet was a joy forever, discovering some merit of complete similitude hitherto unnoted; it seemed inexhaustible, yielding new pleasure as often as consulted.

A small and pleasant village in central Indiana was the locus of this primitive achievement; the time I think, the fall of 1842. Seth, my coadjutor and compeer in the enterprise, and myself were denizens of a cosy Law Office, in the second story of an unpretending building, where we tumbled the musty tomes of legal lore, hoping in good time to make lawyers of ourselves. Seth was an artist, that is, he had wielded a pencil in his day and produced some landscapes, and even portraits which were not without merit; at least, so said the knowing ones, who pronounced him a genius undeveloped, and bewailed his aberration in reading law. At one time he had tried his hand at farming, being beguiled by the smell of new-mown hay, or more probably by the per-diem to the harvest hands, (for Seth was poor.) But that was only a temporary expedient, and he did not take kindly to association with those "whose talk was of oxen." I may mention that he afterwads turned up at New Orleans, where he verified the predictions of his quondam friends, by making a sensation in the way of landscapes and of portraits, and so the world lost a poor lawyer and gained a reputable artist.

Having an eye out for the new and curious, I had seen some time before intimations in the public prints of a wonderful French discovery in the art of portraiture, whereby it seemed quite probable there was a royal road to drawing and picture-making; and indeed, that the time was not distant, when one might look in a mirror, and leave his image sticking there. But as greater marvels have in like manner been announced and never heard of afterwards, I was disposed to regard this new wonder as belonging to the same class, until I saw another account of the mystery, and this time coupled with the more tangible statement, that the images of a camera obscura were made permanently visible, and giving a kind of outline of the method.

Seth and I talked over the new discovery for several days, determining, if possible, to verify our deductions by a practical test, and with a view to elicit all the paragraph contained, and to obtain a more complete clue to the *modus operandi*, we tried our hand on interpretation, and by dint of different emphasis and modulation, we thought we could more completely evolve the seeming mystery. The result of this unfledged exercise of legal acumen was, that silver plates properly exposed to the vapors of iodine, and thus coated with a thin film of a yellow or golden color, became sensitive to the action of light and received the image, which could be made visible by the fumes of mercury, and rendered permanent by a wash of salt and water. There was allusion to the employment of hypo-sulphite of soda, but as this was an unattainable salt in that region, it was not to be thought of. One great obstacle in the accomplishment of this and similar enterprises in an out of the world place like that, lies in the difficulty of obtaining suitable instruments wherewith to operate. The chemicals, the mercury, the iodine and the salt were at our command, but Seth's rather abrupt inquiry as to where in thunder we should find the tools and traps to work with, was quite pertinent. However, genius overcomes all difficulties. After another day's consultation, we brightened up our optics, consulted the authorities with a view, as Seth expressed it, of "understanding the principle on which it works," and set about building a camera obscura. It was easy to see how it might be done if we only had the lens, but a plano or a double convex was scarcely to be hoped for in that locality. The possible union of two watch crystals, with water or alcohol interposed, was debated, but after an examination of a score or two of glasses belonging to a friendly jeweler, we relinquished that idea. Our next endeavor was to obtain a large sized sun glass. The general introduction of lucifer matches had rendered this article obsolete, and so we asked everybody if they knew of anybody who was the owner, in fee simple, of an old-fashioned sun-glass. Here fortune favored us, and after a few inquiries and considerable negotiation, we succeeded in dispossessing a boy of a veritable sun glass, for a sufficient consideration.

The rest was easy of accomplishment, and with the judicious employment of pocket knives, tacks, paste, and the division of labor, a cigar box was soon transformed into a camera. Our sun glass was mounted in a paste-board tube, and made adjustable. The rear end of the cigar box being left open, we made a frame to fit, over which we pasted a paper rendered semi-transparent by an artistical application of a tallow candle. This was our "ground glass." Another frame, or rather a combination of frame-work and a flat piece of cigar box, served for a "plate holder," and was nicely adapted to take the place of the ground glass when removed. A "slide" was not thought of, and as to the "chemical focus," we let that take care of itself, for the excellent reason we did not know of its existence. With a quill and the contents of the ink bottle, we blackened the inside of the camera, tube and all. So far, all was right. After a few trials, we succeeded in so adjusting our tube as to obtain quite a respectable view on the ground glass. Now for a plate. This, which we had deemed to be a matter of small moment, proved to be most difficult.

From preliminary experiments on small pieces, we felt certain we could precipitate a metallic coating of silver from the nitrate, on a copper plate, by the use of moist cream of tartar. But after preparing a copper plate of suitable dimensions, we found we could not produce a coating thick enough to bear the required polishing. A day of repeated trials and failures settled that. We therefore, at the suggestion of our friend, the jeweler, undertook to beat out a five-franc piece. This time we had the tools, and by repeated annealing and persistent hammering, we ultimately succeeded in obtaining the wished for platitude, and the head of the citizen king was extended to hydrocephalic dimensions. Then the polishing was long and tedious; but pumice, scotch gray and rouge did the business. So, after two or three days' labor, we were the proprietors of a complete daguerreotype apparatus—that is to say, of a camera obscura, plate, the requisite chemicals, and two tin cups, to be used respectively for the iodine and mercury.

On the morning of a clear, cloudless day, we set about the first experiment. We called into requisition all the old coats, pantaloons, cloaks, &c. about the establishment, to darken the three windows of our office, leaving an accessible place in one corner of the single back window, whence we proposed to aim our camera. We were much pleased to observe that the picture on our ground glass was much more distinct than before, though Seth still objected to its being upside down. Our plate being well polished, and affixed to the plate-holder by a few tacks, we inverted it over tin cup No. 1, containing the iodine.

Not daring to admit sufficient light to determine when the gold color was produced, we concluded to make it a question of time. We accordingly exposed it five minutes, and then carefully removing the greased paper frame from the camera previously adjusted, we placed our plate in proper position in its stead, at the same time removing the blacking box cover from the end of the tube. Then came an anxious consultation as to the time required for exposure. Seth thought ten minutes sufficient; I, fifteen; and we finally compromised on twelve, and at the expiration of that time we removed it, (carefully covering it with a hat to preserve it from any light,) and placed it over tin cup No. 2, containing the scrapings of a piece of looking-glass, gradually heated on the stove. After the plate had "stewed" as long as we thought best, we admitted a little light; Seth, raising it up cautiously, took a judicious peep, and protested the picture was there. Well, we removed it—took out the tacks, placed it in the salt and water a few moments, let in more light—when lo! our plate was as clean and well-polished as at first, without a trace of anything. This was a great disappointment, but we immediately set about a new trial, and with no better success. The third time we substituted real quicksilver for our looking-glass scrapings, and warmed the iodine that it might vaporize more readily. Hitherto our great anxiety had been to exclude all light, presuming very naturally that a plate sufficiently sensitive to receive the impression, must necessarily be destroyed by contact with any light, however feeble. Entertaining strong suspicion that hitherto we had had no iodine on the plate, we ventured this time to admit sufficient light to show us that we had succeeded in producing the desired golden hue. Once more the plate was in the camera, and for twenty minutes we sat down and calculated chances. It was a long twenty minutes, but it ended—our tin cup was again heated up with the real mercury, and iodine on the plate to a certainty.

"A regular built picture, by jingo!" said Seth, as we slipped it into the salt water and admitted the light. Sure enough, there it was. The iodine was slowly clearing off, and as more ligha was admitted, we saw our miniature landscape—that old shed, with its water-stained shingles in the fore-ground, the barn yard and its carts and wagons, and even those horses—a little misty, to be sure—but that white horse was unmistakable. The building in the distance—the church and its steeple, and the leafless trees. There was a dim, hazy look about the horizon, and a sad want of what I have since learned to denominate "aerial perspective;" but Seth said that softening down of the harsh lines was decidedly artistical. To me it seemed a realization of what I suppose everybody has thought of—the skilful combination of all the elements of that delicate frost work which we see on the windows of a cold morning into the perfect semblance of a real and familiar scene.

After repeated rinsings we dried it on the stove. I confess there was quite a crystalization of salt on the surface, and some streaks, but still there was a picture—to me an inexhaustible source of wonder and admiration. Afterwards I progressed somewhat in the art; adopted new improvements, and took likenesses of learned lawyers, with numberless imposing looking volumes piled on the table beside them; sentimental young ladies with guitars in their hands, and beautiful boquets in the back ground; matronly ladies, with pocket handkerchiefs of table-cloth dimensions; children, with staring eyes and cork-screw faces, and love-sick swains who persisted in sitting with a huge hand placed over the region of the heart, and who brought back the picture after a few days because the heart was on the wrong side.

All these, of course, I admired exceedingly—but still, I repeat, there never was anything like that first daguerreotype!

Shade.

THE CUTTING PATENTS SUSTAINED—BREAKERS AHEAD!

BY THE EDITOR.

The case of Tomlinson *vs.* Bogardus, is destined to be a *cause celebre* in the photographic community. All will be curious about it, and with many the interest will extend as low as the pocket. The triumphant parties pretend to the power of exacting tribute from nine-tenths of those who make or use collodion in the United States

That the readers of the Journal may have no doubt of the exact position of affairs, we have taken the trouble to procure the following certified extract from the proceedings of the court:—

"At a stated term of the Circuit Court of the United States of America, held at the City Hall in the City of New York, on Friday, the twenty-fourth day of September, in the year of our Lord one thousand eight hundred and fifty-eight;

Present—The Honorable CHARLES A. INGERSOLL, Dist. Judge.

William A. Tomlinson *vs.* Abraham Bogardus.

On motion of Mr. Keller, ordered trial.

Jurors sworn.

Mr. Keller opened the case on the part of the plaintiff.

Evidence of the plaintiff.

Patent to James A. Cutting, July 11th, 1854, for improvement in composition in photographic pictures. Read.

Patent to James A. Cutting, July 11, 1854, for improvement in photographic pictures on glass. Read.

Patent to Isaac Rehn, December 4, 1855, for improved photographic bath.

James A. Cutting, sworn.

By consent of counsel the jury found a verdict for the plaintiff in the sum of one hundred dollars—and so they say all.

[A Copy.]

KENNETH G. WHITE,

Clerk."

By the first patent the plaintiff claims the use of bromide of potassium; by the second, balsam sealing; and by the third, the overflowing bath. The verdict of the court confirms these claims—and that verdict is undoubted law, entitling the plaintiff to easy injunctions and suits for infringements in inferior courts, until it is set aside or reversed. The patent folks also claim the exclusive right to use all other bromides as being equivalents of bromide of potassium, and under the ruling of Judge Duer, (see pp. Vol. VI, Old Series,) the name Ambrotype. It appears, therefore, that any artist or manufacturer who has used or is using any bromide in his collodion, or balsam after the patent method, or has manufactured, sold or used an overflowing bath, without the consent of the patentees, *may* receive an invitation to call and settle.

It appears from the minutes of the court that no defense was offered, and many will believe that the verdict was taken only by that default. Mr. Bogardus is also blamed for not acting as the champion of the photographic profession; but, I believe, unjustly blamed. He was selected to be defendant in this test case, only on account of his well-known ability to meet the expense. He had used the patented processes and apparatus but little—in fact, only to disapprove of them, and abandon them for what he considered better. He had no use for the things which the plaintiff claimed. He has been harrassed for a whole year, feeing lawyers and preparing for the trial, which has been adjourned and readjourned. The case was finally set down to be tried, without fail, on the 23d, but at that time, when all appeared ready, planitiff declares that a material witness is missing, and all must come again. At this point the compromise was suggested which was perfected the next day. Lawyer Blatchford advises his client that in all probability, at least one of the patents will be sustained, and costs will go against him; and if you get a verdict after many days, you must pay me, says the lawyer. So Mr. Bogardus had probable costs, lawyer's fee, (not a trifle), many days of derangement in his business on one side, and what on the other? A trial would have been fun for me, and I confess for this and from a desire to have the case firmly settled, I endeavored to coax a contest, pitting the parties against each other. But they wouldn't fight.

What will be done it is impossible to say. There are hundreds of the patent purchasers in all parts of the country, who have been anxiously awaiting the result of the trial. Their wishes are gratified and they are jubilant. Whether they will wait and act somehow in concert, or each one on his own account will pitch into his neighbor, is still to be determined. Mr. Tomlinson, however, promises to be as fair as possible in his own territory, (New York city and New Jersey,) and to commence operations on the "picture factories." My sympathies are with him in such a contest, and I cry "lay on Macduff."

Also, how much can be done legally remains to be seen.

As to the merits of these inventions of Mr. Cutting, it will be recollected that I have frequently expressed the opinion that they are trash. I should have little sympathy with any man at this time, who might be found infringing the patents, by using bromide of potassium, balsam sticking, or the overflow bath.

There are breakers ahead for some, and fun for spectators.

EDITORIAL MISCELLANY.

——A Happy New Year!

As a business, Photography has suffered severely during the past year, and there is no mystery about the fact. Every other business has been depressed, and photography has had only its share of misfortune. The high pressure system of money-making was fine to look at and to travel after, when we kept away from the furnace. The engineers burst the boiler, and every one was filled with terror. We thought we might recover from the shock in a year. Yet some were crippled for life. Many are still nervous and timid. Still old Gunnybags sits on his coffer looking anxious and expecting thieves—no railroad dividends—the west still groaning under debts and short crops—the south with plenty of cotton waiting for a remunerative price—tall chimneys with no smoke and roar of the blast, now only monuments of former glory—diminishing exports—immigration suspended—Atlantic telegraph dumb—Is it strange that people do not want to perpetuate their sorrowful faces. And lately, our dear and respected friend, the venerable Sol, often keeps away for weeks. Alas!

Yet despair is surely folly; hope and courage are food and raiment. Success is only glorious as it tramples over obstacles. The brave man defies dangers, and they flee before him; the craven conjures up ghosts which prove terrible realities to him, If customers stay away, invite them, or prepare to meet them the next fine day. Brush out the cobwebs from your gallery; replace those awkward daubs now before your door with real pictures, so that your neighbor will scowl on you with envy. These leisure hours may be made the most profitable and busy. Dispair and Faint-Heart were never rich, respected or happy.

The earth has rolled round its annual course, but it has not gone back to the starting point. The astronomers tell us that it goes on zigzagging and still progressing in another and grander orbit, which is unmeasured in miles or years. There are haltings and going back, which far-reaching vision discovers to be in reality progression. The world moves—it goes ahead.

An art or a science in times of steam and printing cannot be lost, or retrogaade. Our art of Photography is of necessity becoming more perfect. As we practice and think we acquire dexterity, and reason chases away the mist from our path. So if, in the coming year, we shall not be dazzled by some brilliant development, we may yet be content with the prospect.

For a record of the progress of the past year, we refer with pleasure and satisfaction to the pages of this Journal. Everything worthy of permanent record will be found here, and we recall the fact with pride that the first publication of many important improvements was made through us.

Our readers will please pardon us on the present occasion for the vanity in calling attention more particularly to what the AMERICAN JOURNAL OF PHOTOGRAPHY has done during the past year.

It has shown the practicability of having the "dark room" brilliantly illuminated.

It has ennnciated the correct principles to be followed in enlarging photographs.

It has given the best remedy for disordered nitrate baths.

It has republished the most valuable of foreign discoveries in advance of all other American periodicals.

Could we not extend the catalogue?

The fact that more than one-half of the photographers of the United States are daily making practical use of what has originated from the correspondents of this Journal, makes us believe that it is an honest pride we feel in the contemplation of our labors. Brother Snelling, what have you done? What good has come out of the vulgar "*Journal* of" all the arts and sciences, &c.?

Do our readers want promises and pledges for the next year?

———A few days since, while all was quiet about our place, we were startled by a crash, as if a crystal palace or a crockery store had been dropped before our door. The greatest excitement prevailed among our neighbors and ourselves, shouting, raising windows, running in all directions, till the catastrophe was explained.

It appeared that the large sky-light on our photographic laboratory was raised by some strange force of the wind, and sliding off the roof, fell down the space of two stories, and then dashing through a projecting sky-light on the first story, reached the ground shivered to atoms.

Thus, in an instant, about two hundred lights of glass were reduced to powder and little fragments.

This circumstance is worth relating, as a caution to those who build sky-lights. The weight of a sky-light is not sufficient to hold it firm. Our roof is nearly flat, and at the time the accident happened, the wind was not at all noticeable inside the building.

——We have already received a number of letters of anxiety and alarm concerning the Cutting patent. As to the facts, we are not able to add anything to what will be found on another page. We shall take great pains to present to our readers a true history of what will transpire.

To men of excitable disposition, we say: Try to spare hard words, and keep your temper. Don't be alarmed by any ridiculous threats of shutting up your business. If you have infringed the patents in the past, pay only what is reasonable. If you are unwise enough to be infringing them still, we have no advice and no sympathy for you.

——In our next we expect to be able to lay before our readers, the Carbon Printing Process of Mr. Pouncy, which has vexed the wits and temper of our English friends for the past six months. Mr. Pouncy has been withholding his invention till the sum of five hundred dollars should be raised for him.

——Our correspondent Dr. Sanders is hibernating in Havana and Key West. He finds Key West a delightful place—thermometor at eighty,—four thousand people, and no photographer. In Havana, of course, the art thrives.

——Among the subjects shortly to be discussed in this Journal are —cheap pictures—the prospect for the daguerreotype—permanent photographs and washing photographs.

——In answer to Gossip and others:—the Ivorytype was described in Vol. VII, Old Series.

THE AMERICAN
Journal of Photography.
[NEW SERIES.]

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

Scamp's attempted Revenge—Hard up.

One Saturday evening whilst Bristles and myself, who had managed to keep up a quiet civility, were preparing for our usual journey to Barnet, a gentleman stepped in with a very mysterious air, and informed us we were wanted, that a gentleman, high in official station, required our presence; in fact, the necessity was so urgent, that he had obtained the seal of Her Majesty the Queen, by deputy, to the invitation. When we arrived at the office of the functionary, we found that we were arrested at the instance of Rascal Scamp, who declared we had swindled him out of his piano, and who had managed to obtain this warrant for arrest on a Saturday night, when it would be too late to obtain bail, and the magistrate had gone home, so could not hear the case. Here was a pretty kettle of fish. How convey information to Barnet? Porlus had preceded us there, and another gentleman had paid him a similar visit, and he had managed to inform the ladies he had to visit London again on urgent business, and that none of us would be home till late. The only official, the inspector, was a regular "Jack in office," and it was a long time before we could show him the absurdity of the charge, or at least persuade him to allow us to obtain bail. This business occupied many hours, and the trotting about London of Porlus and myself, who soon found volunteer bail, to obtain bail for Bristles, was quite refreshing, since it gave us much open air exercise, and developed our muscle. It may readily be imagined that our acquaintances were not a little astonished at being awakened at midnight for the purpose, especially not knowing the charge.

It was five in the morning when we arrived at Barnet footsore, to the relief of the ladies. On Monday, as was to be expected, Scamp was not present to reiterate the charge, which was of course dismissed, and we immediately commenced proceedings against him for perjury and false imprisonment; but the first charge fell to the ground, since he had not *sworn* to it, and the second we were strongly advised to abandon, since he was not worth powder and shot; still a judgment would put him in prison, and that would be some satisfaction and punishment. Having found that the piano had been obtained from a needy manufacturer without paying for it, we managed that he should have the chance of redeeming it, upon paying the advance, which opportunity he readily availed himself of.

Disgusted with affairs at Barnet, I sold my share of the fowl speculations for a trifle; a nominal sale by the way. Whilst I was interested in the picture business, I thought home comforts of more consequence than the chance of a little profit, and still have no desire to be weaned from the fancy. I was quite as anxious for a dissolution in the picture business also, but how to do it? neither could buy out the other. The singularly unpropitious weather had eaten up all our cash, the speculation had run us in debt. Bristles' legacy I had long given up as hopeless, or at least thought it would be absorbed in law expenses, and we were buying money at a fearful rate. Bristles said we were much in debt. I could not clearly understand how it could be, but unluckily was not the cashier, and was quite unwilling to await any formal settlement, provided I could see a chance of getting out—so embittered had I become—when Bristles proposed that one buy out the interest of the other. This was rather a novel proposal, since neither could raise cash. He proposed that one take twenty pounds and a quarter set of apparatus, and the other, the business and debts; and required my answer the next day, adding that if one was not out of the business in a week, he was determined that it should be broken up. Great as was my indignation, I felt inclined to try my chance, confident that by careful management I could pay the debts soon after fair weather set in, but found no one willing to advance me the cash; in fact, I asked but two. Bristles however, announced that he could borrow it, and I agreed to take the cash and go, marvelling where it could come from, considering he was a stranger in a strange land—but brass, you know, is sometimes exchanged for gold. I took the apparatus, and with two pounds in my pocket, took furnished lodgings for a few days, until the twenty pounds were to be paid, when we resolved on an artistic tour.

These furnished apartments were situated in a highly fashionable street for lodging houses; but fashionable as was the situation, the interior of the house, at least our apartments, could not very truthfully come under the same description. Possibly they may have been; possibly also, the worthy landlady still thought so. Her taste may have consisted in variegated carpets; sights of the floor sticking through may have been deemed picturesque. That old furniture may have been thought substantial; it was,—polish on it superfluous, and dimness unpretentious. That box of wires may have been thought musical, but people differ; Mrs. Skylight differed; she could draw naught but discord from its cords. To my notion, the solid old bedstead, with its clean clothing was the only comfortable arrangement in the rooms, and it would have been a credit even to my grandmother. Meanwhile, anxious to earn my first cash on my own independent account, I rigged up a temporary accommodation, to the astonishment of the inmates who were unposted in the art. They evidently dreaded some explosion, or weird-like conjurations. I took a few pictures for my wife's friends, and got the cash for them. But Bristles cash was not forthcoming, and I was bristling up with disappointment, whilst our cash was getting smaller by degrees, and uncomfortably less; but hope was bright, and our appetites singularly good. How does it happen that when we can least afford it, we have such uncomfortable appetites? At least, that has been my experience. Days passed by, and all the cash passed with them; still, it was some comfort that more was due, but it did not come, and every penny had gone. A pleasant situation, certainly. Brother Photo., were you ever cashless? But where was the morrow's breakfast to come from? Still we kept our spirits up, hoping, like Micawber, for something else to turn up, and something to put down. Walking out in the evening, pockets quite empty, I espied a bright sixpence on the ground; ere I could calculate its purchasing power as regarded the breakfast, lo! another; who can imagine our joy, sixpenny joy? why, the temporary pleasure could not be excelled by the bequest of a million! Well, breakfast was accomplished, but dinner must come, and supper follow, and the same routine on the morrow: so I resolved to see Bristles and urge him to pay up—to remember his own exacting demand of cash in a given time. Now Bristles did not happen to be more amiable than myself, and replied with much chuffness that he had no money, but would have in a few days. This not exactly suiting, high words sprung up, a regular breeze. Bristles began sneering; Skylight became passionate; the heartless sneers of Bristles, who had the whip hand, so worked on my temper, that it was with much difficulty I could keep hands off; the struggle of passions was so fearful that I could scarcely get myself down stairs, and in the highest state of excitement I found my way to my lodgings, when the consolations of Mrs. Skylight ultimately prevailed, when Skylight, brightening up, was himself again.

The scene, however, though treated with pretended contempt by Bristles, had its due effect, for shortly Porlus came, anxious to see me, and, failing in the effort, sent a note pledging the amount the next day, which, duly arriving, we were ready to recommence the world with £20 cash, and as much debt contracted on my own account, when we could not spare cash from the business.

From La Lumiere.

ON CASEINE.

BY LEON KRAFFT.

La Lumiere, of October 2d, gives the process of Mr. Duchochois,* substituting caseine for albumen in the preparation of negatives, after the Taupenot method.

Caseine being unknown to most photographers, I propose to give a rapid sketch of its properties, and a very economical method of preparing and preserving it.

Caseine contains the nitrogenized part, that is to say, the nutritive part of the milk of mammifers. It is held in solution by a small quantity of potash. Cheese is almost entirely composed of it.

Although Mr. Duchochois has given a method of preparing soluble caseine, I must declare that *soluble caseine does not exist.*

Caseine does not dissolve in water, unless it is combined with an alkali. In that case we do not have a solution of caseine, but of a *caseate.*

This explanation may appear like a crotchet of a savan, or as a point of pure science elucidated; such a view is erroneous. Theoretical truth never limits its light to science alone;

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* Translated from the "American Journal of Photography," page 17.

its rays may cause some grand practical application to germinate.

The discovery of chloroform remained for many years only a scientific fact, about which the theories of Dumas and Liebig jostled each other. The discussion is finished and there remains a magnificent application. With this agent surgical operations the most difficult and painful are performed while the patient is unconscious. At its discovery, gun cotton engaged the attention of the whole world. If we have given up its use as a balistic force, there remains its application to photography, of which its inventor, Schoenbein, had not dreamed.

Albumen was well-known; Niepce de St. Victor and Tanpenot have recently taught us the useful part it may be made to perform in photography.

Let us hope that Mr. Duchochois shall have rendered us a like service in revealing to us a new property of caseine.

In his mode of preparation he directs to precipitate the skimmed milk with sulphuric acid. Any other acid will give the same result. I would designate especially hydrochloric and acetic acids, which photographers generally have near them.

After having washed the precipitate on a filter, at first with acidulated water, then with pure water, I would advise to dissolve it in a little carbonate of soda, or even common salt, substances better known than carbonate of baryta, and of little cost. We might also employ chloride of ammonium, nitrate of potash, and even iodide of potassium, bodies with which photographers are already familiar.

After filtering, evaporate the solution. This becomes by degrees covered, on contact of the air, with a film, which neither dissolves in acids, alkalis, nor in the salts indicated. It is this pellicle which we see form on the surface of milk when we heat it. When all the liquid has disappeared, the caseine presents itself under the form of an amorphous mass of an amber yellow color, without odor, but of a flat taste. Its solution is coagulated by alcohol and acids. All earthy and metallic salts precipitate it. With lime it forms a compound insoluble and imputrescible, which is employed in painting in distemper, as well as for preparing a mastic for receiving every kind of painting and impression.

It is especially under this form of caseate of lime that it is most convenient to preserve caseine. I commend it without hesitation to the notice of photographers.

When it is desired to disengage the caseine for use, it is only necessary to add a sufficient quantity of the caseate to hydrochloric or acetic acid, observing that the caseate must be always a little in excess. Filter the liquid and carefully wash the precipitate, which may then be used after the formula indicated by Mr. Duchochois.

Without this preparation we run the risk of losing all the caseine which we may have prepared. In fact, this substance, however little moist it may be, easily enters into putrefaction, when it is transformed into a great variety of products with disengagement of an insupportable odor.

We recommend, also, the following method by which caseate of lime may be abundantly and cheaply produced.

Take white cheese, (fromage a-la- pie); treat it at a temperature of about 90°, with carbonate of soda, so that after a contact of many hours, there is a little cheese in excess. Filter and turn into the liquid a solution of lime, or of sulphate of lime. We obtain an abundant white precipitate, which is composed almost entirely of caseate of lime. Throw the precipitate on a filter, and wash with a large quantity of water, and, finally, spread out to dry in the air; once dry, we may preserve it for ulterior use.

Caseine has the same composition as albumen. For one hundred parts by weight, it contains, according to Dumas and Cahour:

Carbon, - - - - -	53.50
Hydrogen, - - - -	7.06
Nitrogen, - - - -	15.77
Oxygen, &c. - - - -	23.68

A LETTER FROM GOSSIP.

Elgin, Jan'y 10th, 1859.

Mr. Editor.—Hail to humbuggery revived! hurrah for our law courts! huzza for lawyers unacquainted with the nice points of right and less nice points of wrong! three cheers for him, who, getting scared, "allowed" a verdict, and gave the opportunity to Tomlinson & Co. to flash a decision in the faces of poor photographers, and say, "Your money or a suit at law; you dare not use bromine; I defy you to say Ambrotype."

I see by the last "JOURNAL" that Tomlinson has a verdict for the Cutting claim, and you, I am glad, disapprove of it. Yes, Cutting has cut in in fine style, and has gone in lemons and will get squeezed; the acid of his claims will sour the hopes of fearful ambrotypists, and set trembling, mere tyros. I wish him joy of his victory. He has done his work cleanly, and visions of fortune gloat o'er his mind. Prepare, all ye who have tampered with his right, to pay a per centage on every pound of collodion you have used, and ye who have sold, pay according to what you have boasted to have sold; let the thousands and tens of thousands of bottles be counted, that they pay into the coffers of the Cutting; and ye who have made your reputation on your iodides and bromides, pay for daring to exercise your skill, for bromide collodion is his; his fortune stands out like a mountain against the sun. Where lie your profits now? your reputation? your great name that was wont to set your rivals in a state of fear? Go, get thee back to your simple iodide, and ask permission of Cutting ere you do more, for Cutting has the sole right to use bromide, though he who originated its use, gave it freely to the world. It may have been in that spirit of generosity that almost all Europeans who have improved the art, gave up their improvements for the love of it, or that, well knowing that bromine had long been used as an accellerator in the daguerreotype art, did not dream of seeking a patent for its application to a wet process. Nevertheless, it WAS given to the world, and artists quietly using it as their right throughout various parts of our country, were astonished one day to hear that J. A. Cutting had obtained the exclusive monopoly, because he was the first to publish what others already knew; viz.: that he was just as welcome to the use of bromine as if he had discovered it, and to anticipate secrets, to make assurance doubly sure, though he had used the bromide of potassium alone, not having tried or decided on the various other bromides in European common use, he cunningly persuaded the patent officers to insinuate in the grant the sole use of all bromides now in use, or that might be in use for years to come, though the said J. A. Cutting had invented none, and possibly was unacquainted with the use of but one. But some people did not know of the wonderful decree, so went steadily on their ways using bromide; others believed it not; some naturally supposed it related to bromide of potassium alone; since with that alone he was acquainted—but the masses thought that, being founded in injustice, it would not stand, so pursued the even tenor of their ways, and made many experiments and improvements.

Now I, Ambrotypean Gossip, travelling through this our extensive country, had my trials and experiments, and had just hit upon THE bromine, and now find all my labor in vain, and that it must fall into the hands of the ruthless Cutting, who would have laughed at the very name, had it been unsuccessful. 'Tis useless to keep it secret now. "Bromide of Mud" is the great prize that falls to Cutting, and bromide of clay, or of smoke, or any imaginary or unimaginary bromide, or real and practical bromide that may yet develope, that is yet in the womb of futurity to be delivered by genius, all, all belongs to Cutting, because he appropriated the first free gift of bromide of potassium. Alas! poor artists, reserve your skill for the benefit of shoes and hob-nails, and paving of streets—anything but photography, lest the inevitable J. A. C. proves a claim to it says the court, as he did to bromide, and ambrotype, and photo-lithography, &c., let your art be at a stand still, retrograde, become indifferent, rather than have your work for nothing, and the benefit of your skill be given to the man whose fortune was, in being the first to make a personal appropriation of what was thrown away. But say, Mr. Editor, what becomes of the rights of those who acquired them in Europe, when first given away, and continued to acquire them up to the present time? Does an American, on a visit to London, who used as common property bromide before the patentee here smelt collodion? does an Englishman, Frenchman, German, &c., who fairly acquired the right of its use, lose that right by returning or emigrating to this free country, where the spirit of the laws are against monopoly—tea for instance,—it is something I want to know.

I sincerely hope that every man who has a dollar he intends devoting to the art, instead of paying it as black mail for the privilege of using what he has a right to use, will put it into a general fund for the purpose of thoroughly testing the question, and pledge the fund to the defense of any or all who are attacked by the would-be monopolist. Do not look at the small cost of quietude; do not think of expediency, but remember you must be governed by principle. If you, time after time, or even once, pay even one dollar to save trouble, you will have swarms of claimants buzzing about, asking five dollars for this and ten for that, and threaten to plunge you into litigation.

Photographers, you have never banded together before for mutual protection—let me beg you will this time try the experiment. I have devoted much time trying to guard you from process peddlers, and cribbers of men's brains, and hope not in vain—Fight. Gossip.

ODE TO PHOTOGRAPHY.

Child of the Sun-light, art almost divine,
Death's enemy, and conqueror of Time;
Friend of the heart-bereaved, whose powers restore
The shadows of the loved ones, ours no more.
To the lone mother thou can'st bring her child,
And show her how her rosy darling smiled;
Thou can'st beguile the widower of his pain,
Shadowing him forth his loved one's form again;
And while to his her fond eyes softly speak,
The rose-bud lip, the morning tinted cheek,
Her arching brow, each well-remembered tress—
The clear bright transcript of her loveliness.
With love and memory he fondly weeps,
And half forgets how endlessly she sleeps:
Thou, too, can'st proudly claim to show the world
The shades of those who freedom's flag unfurled;
Thou, only thou, can'st fully paint each face,
Of those dear friends and brothers of our race,
Nature's true kings, that small and glorious band,
Alas! too thinly scattered o'er each land,
Who in their love of man, and pride of truth,
Have done great deeds of honor and of worth.
Show noble Creighton's face beside his sail,
And the dear angel glance of Nightingale.
Nor man's the only face thou can'st impart—
Bright Nature's charms upon thy canvas start,
And 'grave her beauties with thy lightning pen,
Deep in the hearts of city-prisoned men;
Awful Niagara's wondrous majesty,
And mountain peaks that pierce into the sky:
Nor ends thy glorious mission even here;—
Heaven's power and wisdom thro' thee show more clear,
Pinioning the wondrous grasp of human mind,
Which thus can Nature's secrets seek and find,
The perfect links of Heaven's eternal plan,
And glorify the works of God through man.

Fanny Baker.

SUPERIOR COURT—BEFORE JUDGE DUER.

AMBROTYPES;

The State Courts have no jurisdiction over causes growing out of a Patent.

W. A. Tomlinson agt. M. L. Battel and another.

This was an action to restrain the defendants by a perpetual injunction from using the word "Ambrotype," as applicable to photographic pictures and likenesses taken by them, and also for damages sustained by plaintiff from the unlawful use of the word by the defendants. The complaint stated that, heretofore, one Cutting had invented and discovered certain improved processes and modes of taking pictures upon glass, and that he had invented the word "Ambrotype,"which he exclusively applied to all pictures taken by such improved processes, and stamped upon such pictures on their frames. It averred that Cutting had obtained a patent from the Government of the United States for securing to him an exclusive right to use the processes so invented by him, and that by various mesne assignments, the exclusive right to use the processes so patented in the City and County of New York, and other counties of the State, was vested in the plaintiff, who, by virtue of such assignments, had also acquired the exclusive right to use the word "Ambrotype," to designate the pictures, likenesses or impressions taken, or manufactured by them, as assignees of the patent. The complaint also alleged that the defendants, in violation of the exclusive right of the plaintiff, had taken, manufactured, and sold within the City and County of New York, under the name of Ambrotype, large numbers of pictures, likenesses, &c., similar to those taken and manufactured by Cutting and his assignees, to their own great profit and advantage, and to the great detriment of the plaintiff. The relief demanded is that above stated. The answer denied specifically each material allegation in the complaint, relative to the exclusive right of Cutting and his assignees, but admitted that the defendants had used the word "Ambrotype" to designate the photographic pictures taken by themselves on glass, and asserted that they had a lawful right so to do.

When the cause was brought on for trial, and pleadings were read, the Judge said that he had great doubts as to the jurisdiction of the Court, and directed that question to be argued before any witnesses should be examined.

It was accordingly argued, upon a subsequent day, by the counsel for the plaintiff, and was decided by the Court, without calling upon the counsel for the defendants to reply.

Duer, J.—Considering the law as settled—as I have recently had occasion to show in the case of the "Balm of a Thousand Flowers"—that there can be no exclusive property in a generic or specific name, unless as incident to an exclusive property in the article, composition or process, which the name is used to designate, I must of necessity hold that the plaintiff cannot maintain the action, unless he can show that he has an exclusive right in the process by which the pictures, properly called "Ambrotypes," are produced, for, if the defendants have an equal right to use the process, they have an equal right to apply to the pictures it produces their appropriate and distinctive name. The plaintiff claims an exclusive right to use this process within this city and county, by virtue of the patent granted to Cutting, of which he is in part an assignee; and hence it is upon the existence, validity and construction of this patent, that the title of the plaintiff to the relief which he claims, principally, although not wholly, depends. But, as I understand the Constitution and laws of the United States, questions concerning the validity and construction of a patent belong to that class which the Courts of the United States are alone competent to determine. The act of Congress "To promote the progress of useful arts," passed in 1836, (acts of 1836, p. 244, sec. 17), has put an end to any doubts that may formerly have existed on this subject, since, by its necessary interpretation, it gives to the courts of the United States, exclusive cognizance of all cases arising under the patent laws; and in my opinion the case before me falls within these general words. It is a case in my opinion as truly arising under the patent laws, as if the action had been brought for direct breach of the provisions of the patent, which is relied on, since it is brought for the violation of an exclusive right, which, if it exist at all, exists only as a consequence of these provisions. It is true this exclusive right is not given by the terms of the patent, but it is only as an incident flowing from the exclusive right which the patent purports to secure that it can be established, to prove its existence, the patent itself must be produced, proved and construed.

It is not necessary to deny that when a question as to the construction, and, perhaps, as to the validity of a patent, arises, collaterally, in the progress, and upon the trial of cause, the necessity of its determination will not oust a State court of the jurisdiction which it derived from the nature of the action and the state of the pleadings. But here the existence and validity of a patent, concerning the process, by which the pictures to which alone the name of Ambrotypes can properly be given, are produced, lie at the very foundation of the plaintiff's claim. They are facts constituting, in part, the cause of action; as such, they are averred in the complaint, and as such are put at issue by the answer. It is upon an exclusive right, secured by a patent, that the action is founded. It is this exclusive right that the answer denies, and is the denial which raises a question that, when thus raised, neither this nor any other State court, in my judgment, has authority to determine —a question which I have no right to determine, and must refuse to consider.

I am not aware that there is any adjudged case that, in its special circumstances, resembles the present, but the principle upon which I act in refusing to hear this cause, I apprehend is distinctly laid down by the Supreme Court in Parsons against Barnard, (7 John R. 144), by Chancellor Kent, as Chief Justice, in Livingston agt. Van Ingen (9 John., 582), and by Mr. Justice Strong, in delivering the judgment of the Court of Appeals, in Dudley agt. Mayhew, (3 Com. 9).

It is plainly for the interest of the parties that the objection to the jurisdiction of the Court should now be taken, since, as it cannot be waived, it may be raised in any stage of the proceedings, and even in the court of ultimate resort. Its decision now may be a saving of much time and expense.

Following my conviction, I shall, therefore, dismiss the complaint for want of jurisdiction, but without costs, and with liberty to the plaintiff to appeal without security to the General Term.

G. L. Ford for plaintiff; J. Humphreys for defendants.

(The above opinion was delivered long ago. There are points in it which will govern other cases now in the same Court.)—Ed.

A NEW METHOD OF FINISHING PHOTOGRAPHS.

THE IVORYTYPE.

BY THE EDITOR.

I have never shown much favor to photographs colored from the back. Yet the little genius and skill required to execute the "Grecian Painting" (Phœbus! what a name!) the demand for cheap colored pictures, and the late grand flourish concerning Hallotypes, render this unartistic method of coloring of some consequence, at least enough to make it worth while to seek for those who practice it, the best way.

Photographs colored from the back, are made transparent by means of oil, balsam or varnish, and are commonly attached to a glass plate by means of varnish or balsam. The objections to the common method of procedure, in contrast with the method I propose, are the nasty and sticky nature of the materials used, the time required in manipulation, and especially the fact that the picture on exposure to light and atmospheric influence, will generally turn yellow, and sooner or later will invariably peel off from the glass. All of these objections are removed in the following process.

The material with which I render the photograph transparent and cement it to the glass is, white wax. I melt the wax on the glass plate, lay the photograph on and in the wax till it is saturated, and while the glass is cooling, I press out the superfluous wax and air bubbles with a roll of soft and clean paper. The whole operation may be completed in a very few minutes. If the picture be now backed up with white paper, or preferably with a duplicate photograph, it has somewhat the appearance of a well executed chemitype. The photograph looks vastly clearer and smoother than if mounted in the usual way on card board. If you want a colored picture, it is only necessary to back up the transparent print with a duplicate, rudely colored by any of the ordinary methods. If your eccentric taste admires a Hallotype, separate the two pictures by a sheet of glass, or if you are afraid of infringing the inventor's rights, and desire to improve on him, keep the pictures apart by a paper mat. Oil colors laid on the back of the transparent picture will be displayed much clearer, and brighter, than colors on the duplicate.

The most convenient way of warming the glass plate, in order to melt the wax, is to lay it on a thin plate of iron, of about the same size as the glass, and apply the heat by a spirit lamp.

(The above was published in this Journal of Feb. 1st, 1858. It is reproduced here by request.

I have found that much of the photographic paper sold will not answer for the process, for the reason that the wax does not penetrate it uniformly, leaving a kind of mottling or granulation. It is possible that a solution in week acid would remove the difficulty.

The name, "Ivorytype," is most appropriate to the pictures with light backgrounds.)

THE CUTTING PATENTS.

BY THE EDITOR.

I believe in patents—patent laws are desirable, and should be founded on wisdom and justice. An invention is a product of labor and skill; its originator has paid for it—it belongs to him as really as does his coat, when he owes the tailor nothing, and it is the duty of government to protect him in the exclusive right to use it.

Our patent commissioners examine the evidences on which the claims to proprietorship rest, and they make their decisions solemn with a big seal, which decisions the people respect as long as they deem them worthy. But inventors and patent examiners are only men, often with eyes no keener, in heads no longer than rest on the shoulders of others. Men are constantly inventing old things; patent examiners constantly give decisions which the courts reverse. The examiners are not experts in all arts. It is our right to review their decisions about photography; and we need not hesitate to differ with them and contest them.

Now, concerning the Cutting patents, that which claims the use of bromide of potassium, is the only one which is of interest, or is worthy of discussion at the present time; and this acquires importance only from the fact that the patentee pretends to the power of exacting tribute from all who employ any bromide whatever in the collodion, and in earnest promises to exercise his authority. Did he limit his claim to the use of bromide of potassium, no one would pay any attention to him, however unfounded might be that claim. But as the matter really stands, every photographer should determine what he will do in the probable emergency.

For myself, I do not believe that Mr. Cutting is entitled to the exclusive use of bromide of potassium, or any other bromde. The points of an argument I would express somewhat as follows:

Suppose I introduce a new vehicle for photographs on glass, a complete substitute for collodion—double-distilled buzz-fuzz, for example,—I first try it with iodide of potassium, publish my discovery in this Journal, thinking nothing of a patent. Some Athens man reading the Journal, adds bromide of potassium to my formula, thinks he has made an invention, rushes to Washington, gets sweet on some patent examiner, who at the end of six months is ready to certify that the Athenian has a property in the use of bromide of potassium, whenever employed with my buzz-fuzz. At this stage of proceeding I think I should smile, being so moved by the conceit of the Athenian and the simplicity of the official of a great people. Would'nt everybody appreciate the ridicule? So far supposition. The reality is not very different. Paper was first used in photography; then on glass we had albumen, gluten, gelatine, caseine, [&c.; all of these substances being employed with precisely the same chemical processes. At the time collodion was introduced, I believe every variation and modification of the chemical process which has been employed with collodion, had been previously used with one or more of the other vehicles. The various vehicles were equivalents of each other in their use, and the theory and practice of the processes with them were identical. It will be recollected, that in the famous case of Talbot vs. Laroche, the turning point was chiefly whether the Talbotype and collodion processes were identical, and that Talbot would have been victorious had his patent covered the paper process as practiced at the time of the trial. If Mr. Cutting first employed bromide of potassium in collodion, he deserves little praise or reward; he had no exclusive property in such a use.

Again: Supposing Mr. Cutting's claim to the use of bromide of potassium to be just, such claim does not cover the use of other bromides, unless they are equivalent for the same purpose. Here is a chance for argument.

And supposing bromides to be equivalent, and that Mr. Cutting was not entitled to the exclusive use of a certain one of them, he could not appropriate any other. For example: If I had used bromide of ammonium, and had published the fact, he could not acquire a property in bromide of potassium.

Finally, was Mr. Cutting the first who made use of bromide of potassium in collodion?

There is strength in the above argument, and when supported by the facts which may be produced, will oust Mr. Cutting from the whole of his claim.

I intend to pursue the matter until it is fairly put to rest.

EDITORIAL MISCELLANY.

——We have desired to present Pouncy's carbon process to our readers in his own words, before we expressed an opinion about it. But we are again disappointed. No Pouncy process came by late steamers. Now we venture our opinion as follows:

Mr. Pouncy is an English Hill, only on a somewhat small scale;—he is satisfied with $500. In the beginning he makes the loudest pretensions, files a kind of caveat description of his process, gets talked about n all the societies and papers, becomes the most famous man in the photographic world. At the end of six months the process which he had taken steps to secure by patent, is published, and nothing is found in it but what was well known before. Pouncy declares process published not *the* process, but a ruse—boasts louder and louder—goes into the Photographic Society, and kicks up a row.

In the meantime Pouncy has made good use of his time in endeavoring to so modify or improve the old process, that it will not be recognized.

The fact is that the carbon chromate process is weak in theory. It cannot take the place of a purely chemical process like that on silver. Chemically reduced atoms are a very different thing from particles pulverized in a mortar.

Rev. L. L. Hill. John Pouncy!

——In our next will appear Experiments on Gun Cotton Paper —a New Washing Apparatus—Patents, &c.

——To some English correspondent, (including Darl,) we would say, that we probably shall make new arrangements—by which this Journal will be published in Europe.

——The Cutting patents are stlll the exciting subject of talk. In New York no very active measures have yet been taken;—warnings to stop infringing a plenty, but no injunctions—and no new suits commenced. In Boston, it is said, all the artists yield—save one—(what is the name of the brave fellow?)—and pay for a license $25!

What will our New York friends do—what our country friends? Pay $25 to secure peace, or ——

It is not generally understood that the breeze is not about balsam sticking patent, and that the collodion patent was never sold—so that the patent ambrotype folks may be called on to pay as well as others.

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

A New Era in Photography—Dawn of Collodion—Recommencing the World in Bedford.

About the time of my visit to London much attention was being excited to the discovery of the photographic uses of collodion. Archer had just, in a modest pamphlet "price two and sixpence," published its value, and one of the first things I did after separating from Bristles was, to buy the said pamphlet; it was nothing more than a pamphlet, showing the value of the discovery, with a brief mode of practice. Archer must have thought all photographers highly educated, and naturally intellectual, since the work was only adapted to such, and they could find sufficient in it to incite them to effort, but unless the profession generally has changed for the worse, he made quite a mistake, most men in it now-a-days simply adopting it as an easy mode of getting a living with little exertion and less need of study, and as a business of which all others, has but little use for books. The possession of the book caused me to hie off to our Photographic Chemist, Mr. Hocken, who like all who have engaged in the chemical branch of the Art, was also an enthusiastic practitioner. He thought the collodion process was bound to supercede the Daguerrotype, and endeavored to persuade me to adopt it as my line of business. I however could not see it in the same light, nor could be persuaded that the cold-looking collodion pictures, as the first attempts were, would by any means take the position, they now occupy, an error I have had cause to regret; nevertheless, there was sufficient attraction in the new branch to engage me in it as an amateur, and my first and only lesson was there and then taken. We took our pictures in his front second floor room, closing the shutters when we wanted the room dark. His bath was also his shield, and fitted into the camera, and when he wished to expose the pictures he placed it against the front of the plate glass, of which the bath was made, and which was adapted to the focus of the object glass, and exposed it the desired time. A few pictures gave me an idea of the practice. I now paid a visit to Mr. Archer, whom I found as modest as his pamphlet; he showed me some very fine pictures, especially some white pictures, in which he used the bi-chloride of mercury. His camera for views was also his dark room, and he put his arms through sleeves on the sides of it, and looked through a yellow glass on the top, to see what he was doing. When traveling, his bath and bottles were all stowed away in it like in a packing case. The visit to Mr. Archer will always be to me a pleasant reminiscence, and a stronger reason to regret, that one who has contributed so much to the art and to science, should have been unrewarded. Had he been less modest, and of course less worthy, his reward would have been rich, and his family have reaped the benefit of his studies and talent. Can you, brother Photo., imagine a man in this country, who would have hidden his light under a bushel, of unthankful people, and have avoided the patent office and a fortune. If Archer has left a family, you, reader, commence a contribution, one anew from the one for the living man, to which of course, you contributed your mite.

After due consideration we concluded to take a tour, and commenced preparing for it, but *where* to go required "A mighty dale of weighty consideration" as Sir Patrick O. Plenipo, is made to say. Daguerreotype tourists were by no means common, and I was quite unacquainted with the modes, beside I had not the slightest predilection for any one place. I knew perfectly well that the same class of people as in the U. S. would not be sitters, so it would be useless to try very small places, and made the error of pitching on one too large. Mrs. Skylight happening to have relatives near Bedford, there we resolved to make our first start, though we saw none of them while there. The twenty pounds would not go far in an outfit, and it was desirable to take some cash to allow for a failure. So laying in as carefully as possible a small stock we started with six pounds to pay fare, and risk. Hurra! we are off; 'tis not a long journey—not many hours brings us there, the change of scene pays for the fatigue and close confinement of a second class carriage. Now I say emphatically, confound those second class carriages, on English railroads; just fancy a long carriage divided into compartments, like so many horse boxes, with your vis-a-vis knocking his knees against yours, a narrow unhealthy crib with hard uncushioned seats, and you locked in for safety, lest you might take a notion to commit suicide from discomfort, and with no chance of helping yourself, perchance an accident. You hard-hearted, money-grabbing, miscalculating monopolists, have you yet reformed yourselves, and improved on the wants and comforts of your customers; if so, tell me I pray, as I may yet visit you before I die.

A long straggling suburb leads into the old town of Bedford, which will never be distinguished as great. A liberal and injudicious exercise of one of the noblest traits of the human mind, philanthrophy, has stunted the growth and enterprise of Bedford. Bedford is lethargic from its numerous charities. Asylums and charitable institutions are scattered through the town, until the energy of self-dependence is dwarfed. Nevertheless, though enterprise is stultified through charity, it is better there should be less wealth, if it insure but little poverty. Not knowing where to locate, I asked the landlord of the inn we put up at, who recommended me to one Shepherd, who had a large room he usually rented out for public meetings, opposite the market place, and near the Corn Exchange; not liking this place, I tried hard to obtain a more agreeable one, but failing, was forced to take it, at what I afterwards found out was a high rent, especially as the meetings were allowed. As ill luck would have it, the man was highly unpopular, at least with the better class of the townspeople, which unpopularity communicated its influence to our enterprise; in addition, the family were what is termed ranting methodists, and certainly the heads of it, hypocrites of the darkest dye, as a very short observation of the difference between acts and loud prayers soon showed, and was probably the secret of unpopularity. A day or two showed the speculation would not be unsuccessful, some few of the better class being customers, including the curate and his wife, whose pleasant influence was shown in recommendations to friends. A slight illness of Mrs. Skylight gave the opportunity of knowing the town was blessed with a very kind doctor.

Bedfordshire contains a large number of the descendants of the pure Saxon race, large powerful frames, light hair, and blue eyes, rather a difficult class of customers to commence operations on, especially as I had been in the habit in the States of hearing instructions given, to look straight at a certain object; the light blue eyes exercised me greatly; at last I resolved to throw aside old notions, and tell my sitters to blink as often as they pleased, the expedient answered exactly, and dead-fish-like eyes were banished from my "studio." The beautiful and wonderful stereoscope had long engaged my attention and admiration, and I made some excellent pictures, though, with a small southern side light; indeed, considering the unfavorable light, I was highly successful. One market day, amidst the odd people I had seen, the oddest of all made his appearance and required my skill; he was introduced by Shepherd as the Pastor of a flock in a small village, who occasionally visited and preached in Bedford. The man was about six and a-half feet high, and by no means stout; his features were tolerably good, but lacked the expression of intellect, the most remarkable characteristic being unclerical vanity. Whilst engaged preparing a plate, I heard him telling Mrs. Skylight how he made his appearance in chapel. "You must know, Madam, I am not always so flushed as at present; the fact is, I have been taking two or three glasses of wine; when I enter the Chapel I walk thus"—I looked and saw him walking as stiff as a grenadier, a slow as any stage hero condemned to death, with his mouth puckered up as prim as a disappointed old maid,—"I walk thus with my Bible under my arm, for 'tis not best to be over familiar with my flock you know. But I have a different walk when I return, from the consciousness of having made a hit; I turn round and talk and smile with the leading people, but sometimes it would be a source of great trouble, as so many young ladies seemed willing for a match, indeed, that is the reason I married young." "A great disappointment it must have been to the others," answered Mrs. Skylight, slyly. "Yes, but I am not exactly married now, that is, I am separated from my wife. It was not a very desirable match after all you see. "Dear me," says Mrs. S., "you ought to have had the pick." "You will observe how I shave the upper part of my forehead to give me a more intellectual look, for I think it advisable to make the best impression possible." I chuckled inwardly, when he was gone Mrs. Skylight declared him the vainest, empty-headed fool she had ever seen. "How would you have liked the reverend for a husband, eh?" Oh! heavens.

SPIRITS ON CHEAP PICTURES.

Mr. Editor:—I picked up the following fragment which I send to you. It seems to be a spiritual communication; as I am only the medium, (a sort of spiritual postman in the flesh) you will see the impropriety of fathering the effusion on me. It is evidently "rapping" at somebody they call Cheapman; that is not my name, so I can't think why they threw it in my way, unless they fancy, I, like Pharaoh's daughter, would pick up their bantling and adopt it; but I won't, indeed I won't, you may do what you like with it. It appears to be an oration, or something of that sort.

"An Oration against Cheapman in a variety of styles, a little "Bombastes" not at all "Furioso," rather "Penseroso," illustrated with numerous quotations to enlighten those minds lost in the "cimmerian" darkness of Photography, and to enliven the subject.

First, ye men of ambrotypes, I would ye knew the value of your art and not degrade it. The prize you ask is low, so very low, 'tis almost nothing, for work which should have been the wonder of the world, the glory of the age.

An art whose votaries should have been renowned, whose works should all have stood upon the highest pinnacle of fame and every "type" they made been worth a diadem, and "cheap at that," is now "reduced so low there's none so poor as do them reverence."

I need not tell you fellow laborers how this came about, or by whose deeds we now are left to mourn our profit lost, our glory gone, for all must know the deeds of Cheapman. Lost to himself, oblivious of the cares of others, he entered the Temple of Fame, by the gate Photos, and laid upon the altar the sacrifice due only to mammon, but finding that such gifts were never wanted there, but with contempt were hurled back in his face, he in a rage took up his hat and with a blow fixed it tight down upon his forehead, retraced his steps, forgetful of the way, departing by the gate despair. Envy now took possession of his soul, for she is ever on the watch for those who leave the gate, and soothed him with the promise of revenge—"revenge is sweet," she whispered in his ear, now hearken well to what I have to say—you cannot rise to imminence in an art that suits you not. You have placed yourself in what they call a false position—false then remain—sell cheap, and call it "reasonable," thus you will learn to worship mammon true, and for reward you'll line your pockets too. Poor Cheapman fell before the syrens lure, and in eternity he'll grovel sure never to rise, his punishment shall be a warning to others. Let me recount the dreadful woes and punishment reserved for those who art degrade. "Had I a thousand mouths, a thousand tongues with throat of brass, and iron lungs I could not half the horrid deeds relate" that wait poor Cheapman in the other state. Deep in the caverns of a dark, dark room, or barely lightened with a sulphurous gloom he'll sit, and fancy that he sees the patrons that he tried to please; some look with pity, some will scowl, some with scorn, and all will growl curses on the little soul that was so mean as cheat them. Cheapman will scream in agony, "shake not your gory heads at me," and turn his eyes another way to meet if possible, a ray of "hope that never enters there." Anon with aching eyes he will view a thousand tubes directed and rue with each an evil eye, there gimlet eye will look so fierce, he'll fancy they were meant to pierce right to the core, or with a savage twist to bore a hole to let the day light in upon my soul.

In dull despair he will sit and shiver, his aching flesh will with anguish quiver to see Daguerrotypes with vim, and the dull Ambrotype so grim, all staring mad, their eyes on him. Cheapman will rush in terror through the gloom, and try to find another room, but there the fading Photographs look down upon him with an awful frown.

'Twas fate decree that art should rise,
And men her noble gifts should prize,
But thou vain man with soul elate,
Would drag her down to thy low state;

For this the fates, thy soul may doom to wander in the dreadful gloom that hangs for ever round and o'er the dark'ning nitras argent shore. If so, farewell, unhappy ghost, thy doom is sealed, and thou art lost, for know there is no redemption left for those who impiously the Gods oppose."

The rest of the fragment I could not make out; bits wanting here and there prevented all possibility of arrangement. Some of the scraps seemed to indicate a recommendation to raise his prices; for instance: one was "charge Cheapman, charge; on Cheapman, on;" here the piece was torn off. The last line evidently shows that some attention had been paid to the recommendation, as you will observe from the commendatory exclamation.

"There now; I said that Cheapman was no noodle,
God save the Queen and Yankee Doodle."

A Schmartphelo.

ON THE USE OF BROMINE IN COLLODION.
THE CUTTING PATENT.

BY H. GARBANATI.

The Cutting patents are exercising the photographic world, not so much from the value of the discoveries Mr. Cutting, claims to have made, as from the wide interpretation of what he considers his right. So far as balsam sealing is concerned it is scarcely worth a consideration, since nearly all who have purchased "Rights," have abandoned their use; few indeed, now put up balsam pictures.

So far as the word "Ambrotype" is concerned, there are other words equally as expressive; the common use of the word had more to do with creating a demand for the style of picture the patentee limits as an ambrotype, than the merit of the picture itself.

So far as the "Flowing Bath" is concerned, in which also Mr. Cutting appears to have an interest, there is no reason that I know, to doubt the validity of the patent, the only doubt is about the value of the invention. The baths are now commonly rejected, are becoming obsolete, few indeed call for them, and those who have them in use, do not generally see any advantage in the trough. The interest of the patents, focus on the use of bromide in collodion, the last developed patent right, which, if sustained, insidiously cuts up root and branch, all supposed right in making or using collodion, as commonly made.

It is well to consider thoroughly, the right to the bromide patent, and the extent of the right, supposing the right sustained. We must first consider the justice of the patent for bromide of potassium in collodion, on the strength of which claim, which they pretend has been sustained, they seek to impose a tax of $25, on every one who uses bromide in any form in collodion, reserving the right to assess damages for what has already been used. The value they set upon the fact of having used a common commercial article for a well known purpose, but in a new material, which they did *not* invent, but which was given by the inventor freely to the world, is some two hundred and fifty thousand dollars, ($250,000) since there are at least ten thousand person in the United States who use collodion.

Now, I deny the justice of the patent for bromide of potassium, since the iodide and bromide were well known as adapted to the specific purpose for which they are used, though on other materials, paper, albumen, gluten, &c., and therefore there was no invention whatever, in applying either to any newly discovered vehicle which answered better than any of the older vehicles, though the iodide and bromide were neither better nor worse. Having been used as an accellerator for the daguereotype, and afterwards for the paper, albumen, &c. processes, it would have been strange had bromide not been tried as an accelerator in collodion also, much stranger than that it should have been used. People therefore used the various salts of bromine as a matter of common property, like salt on a dinner table. When the various films were tried on glass, it was quite suggestive, that as the iodide of potassium or any other iodide was used, that the bromide of the same should be used also; and, that Archer did not publish it, cannot for a moment be supposed, because he was unacquainted with it, but that he preferred the iodide alone, a fact well known.

Had Mr. Archer patented his discovery, he would not have patented the excitants because they were already known, but the new material to use them in, and there was no more judgment and skill required to use them with the new vehicle, than there is to turn soup from one tureen into another. He would not have claimed he could use bromide also if he thought proper, any more than a person when sitting down to dinner, would deem it necessary to state a preemptive right of the use of pepper and salt, so as to debar the claim of any single person to a monopoly of the whole. Yet because a man has thought proper to claim all the salt, others are to be suddenly put to great expense to prove their right to a portion of it. Nobody denies Mr. Cutting the right to use bromide of potassium, but why should his right debar the right of others? Mr. Cutting is not peculiar in using bromide, his peculiarity is in seeking a monopoly. Any one else would have thought the obtainment of it absurd.

It would be difficult for Mr. Cutting to prove he was the first to apply it to collodion, and all reason is against any right to a monopoly, by the proofs of its use in before-popular vehicles of excitants, but the more so, when so many persons claim to have been using it, when his patent was obtained, not as a discovery of their own, but as a well known material the uses of which were published in Journals devoted to photography, and read in essays in Photographic societies, long before the patent was granted. I myself with hundreds of others was using bromide of ammonium in collodion long before the patent for bromide of potassium was applied for, and if it is the equivalent of the latter, the patent cannot be valid. But supposing the claim to the use of bromide of potassium, can be sustained, does that necessarily give the sole right to the use of all other bromides, known or used at the time, or invented since? Are the patent holders to have a lease of other men's brains for future years, because they happened to put in the first claim to one well known bromide? Is every experiment to be subject to their taxation, or the discovery of some more combinations with bromide, to enrich the patentee of potassium, and impoverish the one who improves the art? Are salts of bromine, having no other use than photography, and which would not have been made but for its use, to become the property of some man who adopted some other and commercial salts? rather an unreasonable supposition certainly. But why do they claim all the bromides? Because, say they, they are the equivalents of the potassium. But as the editor of this journal says, "if bromide of potassium is an equivalent of bromide of cadmum ammonium &c., then Mr. Cutting debars his own claim, since some of them were in common use when his patent was obtained," and hence he has no right to a patent for an article the equivalent of articles in common use. But I deny it is the equivalent of some other bromides, they are superior to it and the ammonium, magnesium, &c, being adapted to especial results, which potassium cannot give, cannot be its equivalent. If all bromides are to be deemed the equivalents of bromide of potassium, because they are for the obtainment of the same effect, acceleration, whether superior or inferior, then is bromide of potassium the equivalant of bromide of lime, which has so long been used for this purpose in daguerreotyping; if the value consists in its application to glass, then it is stultified by the fact that it was used in albumens which were also used on glass, and by that rule, the use of it on Niello or melaineotype plate is free, or open to a patent to the first one who used it on these materials.

But it is of no use to fight with mere argument. The Patentees claim to have a verdict, and they have the power of levying a tax, or by means of an injunction, of shutting up the business of any one who opposes. Consider well if it is not best for all to oppose as one body, since all are interested, and settle the question forever. It is too bad to levy a tax on such flimsy pretensions. If they prevail in this matter, there is no knowing what new claims may be put in; and how many taxes are to be paid before you dare take a picture. It is so easy for some one to put through a patent for some trifling variation in chemical action, which the Patent Commissioners may not be thoroughly acquainted with, and through fear of litigation should the patent be partly owned by some lawyers, make artists pay another tax on the patentee's wide interpretation of his right.

Who knows what claims may be extant, valueless, but tedious and equivocal, as some one may claim a right to the sole use of preservers, or something of that sort in common use, and then what a trouble there would be. If this bromide patent is sustained, there is a quirk yet to make in gun cotton; quite an explosion will take place. Simple as it may seem, it may yet be the source of trouble. Why did they delay the proof of this right to a monopoly of collodion? was it to effect a sale any how? was it because they thought if pushed early, people would find they could do well without the bromide of potassium? Have none of you been visited by colporteurs and dry goods pedlars, who would leave some trifling article with your wife or servant for a few days, which getting soiled or misplaced, insist on a large payment for the same? is there a similarity in this trifling thing? This bromide patent must be settled but it cannot and will not be done by any one person. You must combine and bear part of the burthen no matter who is struck first, for those who are against you have means. If it can be proved that bromide of potassium, was in common use, the patent officers had no more right to grant a monopoly of it than of the air we breathe. To do so would be an exercise of perfect despotism. The duty of the patent office is to protect inventors and encourage genius. But it is palpable a patent on bromide of potassium is an estoppel on improvements in photography, since in one material branch, such improvement would enrich another and impoverish the inventor.

If the monopoly of bromide of potassium is the sole right of Mr. Cutting, let us see that he gets no more than his right. But to pay a tax merely because he threatens trouble, is any thing but patriotic, and certainly does not display any of that spirit that animated people not so very many years ago, who preferred a long and weary war rather than pay a certain tax in part support of the government.

From Photographic Notes.

MR. POUNCY'S PROCESS OF PHOTOGRAPHIC CARBON PRINTING.

1. Prepare a saturated solution of bichromate of potass.

2. Prepare a common solution of gum arabic, about the consistency of thin varnish.

3. Prepare vegetable carbon, by grinding it with a muller on a paint stone or slab, in the same manner that a painter grinds his colors; and be careful that it is ground very fine. It is to be ground with water.

4. Mix together equal parts of solutions (1) and (2), say four drachms of each, and then add one drachm of No. 3.

5. Stir the whole well together with a glass rod, and strain it through the finest muslin that can be obtained.

6. Now apply the prepared solution in the following manner:—Lay the paper, face uppermost, upon a glass slab, or a very level and smooth board; the glass is the best of the two. Commence coating freely with a broad camel's-hair brush, laying on a copious supply over the whole surface; and then allow the paper to absorb for about two minutes.

7. This done, remove the superfluous liquid thus:—Take a painter's 4 in. hog's-hair "softener," and work it regularly over the paper, with an alternate vertical and horizontal motion, until the whole presents a smooth, even surface, partially dry. The drying may then be completed by the fire.

[Operators will of course infer that the whole of these operations must be carried on in a dark room. They should also be informed, that any other method of application, including floating, &c., will prove ineffectual.]

8. Expose it in the usual way, varying the time according to light, say about four or five minutes in the sun, and from ten to fifteen in the shade. This, however, will be affected by the intensity of the negative, time of year, &c.

9. On removal from the pressure-frame, lay the picture, face downwards, in a flat dish of clean water, taking care to exclude all air-bubbles. It will be found advisable to place some slight weight upon the picture, that the back may thus be retained wholly under water and kept free from stains. The time of soaking may be roughly stated at five or six hours; though in some cases of over-exposure pictures may remain in the water for days, and come out equally good.

It may be observed here, that when the high lights of the picture appear soon after immersion, the operator may conclude that he has *under-exposed*, or that his gum arabic is too thick; which last fault may be corrected by the addition of a little more bi-chromate. It is preferable to find the picture developing evenly all over. Each picture must be in a separate dish, and finally washed under a gentle stream of clean water from a tap or a lip cup. Should the margin be not quite clean, pass a camel's-hair brush carefully over it before rinsing from the tap, and, if needful, any parts of the picture, but the best results are obtained by soaking only.

(The above, from *Photographic Notes*, of Jan. 1st, is the whole of Mr. Pouncy's process, as written by himself for the subscribers to the $500 fund. Our opinion, as expressed in our last issue, is more emphatically confirmed than we had expected. We are unable to discover that Mr. Pouncy has added a single fact or improvement to what was before known.

The Editor of *Notes* with very ill grace still praising Mr. Pouncy and his alledged discovery, says,

" But the publication of this process is not the only piece of good news with which we are able to commence a new volume of the *Notes.* We are happy to inform our readers that M. Poitevin's patents for photolithography and carbon printing, have lapsed in consequence of his not renewing them by paying some additional fees which became due on the 13th ult. These patents bear date Dec. 13th 1855, and were good for three years; that term has now elapsed, and M. Poitevin has not renewed them, so that they have become public property. The only patents now to be avoided, are, that of M. Beauregard for carbon printing, and that of Cutting and Bradford."

How " happy " Messrs. Pouncy & Co. have occasion to be, may be inferred from the description of Poitevin's process, which we find in Delestre's Annuaive de la Photographie.

" To apply photographically the different colors, either liquid or solid, I make an intimate mixture of the color with a concentrated solution of albumen, or fibrine gellatine, gum arabic &c., with the addition of an equal volume of bi-chromate solution: I cover with a uniform coating of this mixture, the paper or other body which is to receive the color. After the drying of this coating, I impress it with light, either direct or diffused through a negative; I then wash it with water and a sponge. The color remains adherent only on the parts impressed by light, and in quantity proportioned to the intensity of the light, We may, in the same manner, apply simultaneously or successively various colors."

It appears that Mr. Pouncy has appropriated Poitevin without a blush.)—Ed. Am. Journal.

HAVANA, JANUARY, 1859.

MY DEAR SEELY:—The object of your journal being to inform your readers of the progress of photographic science and art throughout the world, I thought that perhaps a short communication on the subject would not be unwelcome, if directed from the "ever faithful isle." During my wanderings through this city, I have seen but four or five photographic galleries opened to the public.

Now to those persons who have so often entered the splendid galleries of the United States, the galleries here present a most curious contrast. Just let your readers imagine themselves in a back alley of one of your American cities, where the stables are kept, and they will then have a fair conception of the streets of Havana. If they will imagine themselves entering the carriage-house, with that vehicle on one side, and a narrow passage for the pedestrian on the other, they will then have some idea of the grand entrance to a photographic gallery in Havana. Upon entering one of these galleries. the person unconsciously finds himself looking around for the horse, but I believe that although the carriage is an indispensable article of parlor ornament here, that the horse has not yet been assigned a place in that apartment.

Perhaps on one side of this carriage-house, you will perceive a small recess answering the purpose of a window, in which are some styles of photography. These, in most of the houses, are sorry looking affairs, although there are two or three houses here which produce good pictures.

I believe that Mr. Fredericks of your city, produces the best pictures on the island, if I am to accept four gentlemen who have lately arrived here for the purpose of opening a gallery. These persons are Robert and William Winter, S. A. Cohner and Jas. H. Bonsall. Mr. Cohner is said to be one of the oldest practical photographers in our country, while the two brothers Winter, are celebrated, not only as talented artists, but as the inventors and exhibitors of the Chemical Dioramas, so successfully shown in various cities of the United States. These gentlemen, I have no doubt, with their Yankee enterprise and energy, and their talent and experience as photographers, will succeed equal with their expectations.

I dropped in one gallery, but found a Spaniard there who could not speak the English language. As I could not speak Spanish, of course we could not communicate our ideas to each other very freely. But my sense of sight soon informed me that the gentleman was behind the age in photography. Not only were his chemicals either impure or not compounded properly, but his taste in sitting his subjects, was wretched. His lenses too, were worth nothing, for while they gave a sharp picture in the region of the face, the other portions of the person were quite undefined. His lenses were sharp, but they possessed no depth.

I examined critically the pictures exhibited in the windows of the photographers of Havana, (the native ones I mean) but I saw none which I think would surpass those of our second rate operators. It is through this reason, I suspect, that Mr. Fredericks makes the art pay so handsomely in Havana; for he gives them a good picture and gets his price for it. From the rather cursory examination of the subject I have made here, I am of the opinion that this island offers a good field for several enterprising photographers, provided that they thoroughly understand their profession. There is any quantity of money on this island, and those who possess it are not niggardly of it by any means. All they want here, is a first-rate picture, for which they are willing to pay at least double the price that we ask in New-York. But really, our beautiful art is now so wretchedly abused by ignorant and unpracticed persons, that its prestige has considerably abated of late. It is devoutly to be wished that the present generation of artists, (I mean such as form three-fourths of the photographers of the present day) may be replaced by those who combine with their practical knowledge, a thorough proficiency in chemical science. Such men as these will give dignity to an art which a great majority of the present ones disgrace. It is true that a few days' practice will enable a naturally clever person to take a picture which can be looked upon without disgust; but instead of being an artist, that person should be regarded as a mere machine. To make a successful photographic artist, the person should devote months—nay years—to the acquisition of chemical science, and to that branch of Æsthetics which comprehends the graceful and the beautiful.

I can well imagine, friend Seely, that you can readily endorse the above definition of a true photographic artist, for you have gone through that long scientific drill which fully entitles you to discriminate the gold from the tinsel. But I fear that the great mass of photographers will scarcely read with patience the above definition, so little are they prepared to decide upon the subject.

J. M. S.

CARBON PRINTING—GUN COTTON PAPER, &c.

BY THE EDITOR.

Carbon Printing.—I have found no reason to change the unfavorable opinion I have frequently expressed of what is known as Carbon Printing. It is not possible by that mechanical process, to produce results comparable in fineness and other desirable qualities, with those obtained by the ordinary purely chemical methods. The powder fine enough—the homogeneous mixture—the uniform coating—the even developement and, the penetration of the film by light—are all practical difficulties which are beyond our skill. We may indeed make fair carbon pictures, with much trouble and nicety of manapulation,—and what then? I would be proud to have been the one who discovered the process, because it is an interesting contribution to knowledge; to modify it or show its extreme capability in practice, is worthy of little praise. It is radically defective in theory. Like the hot-air engine or the benzole light, we may be instructed or amused by it, but no such contrivances can take the place of what we already know and use.

Yet a new printing process is desirable—and with carbon; but we must not be satisfied with anything short of a process as truly chemical as that we now employ. Show us how we may eliminate the ultimate atoms of carbon from its combinations under the action of light, and I am ready to abandon my silver printing;—and even then to place the matter of permanence entirely beyond question, the carbon must be precipitated wholly uncontaminated with chromium oxydes or any other oxydes.

To those who are still willing to experiment on the mechanical process, I would recommend that on page 121. In the haste of writing that article, I omitted to mention that the albumen on the paper should be coagulated previous to the exposure: otherwise the picture on development is washed away by the underlying albumen being dissolved. I believe the process will produce as good pictures as any other of the kind heretofore published.

But I have made a useful modification, as follows;

Instead of carbon or a pigment in powder, I have used a water extract of logwood. The solid extract may be procured at drug stores, and when dissolved in water and filtered, is to be added in proper quantity to the bi-chromate and gum. A precipitate is formed from the bi-chromate and logwood. which is of a fine black, and readily incorporates with the mixture. Moreover the formation of this precipitate is favored by the light, thus affording an additional advantage. The pictures made in this way, I believe may prove as permanent as any. Instead of the extract of logwood other extracts may be used, or solutions of certain colors in acids or alkalis.

Gun Cotton Paper.—I have been led to suppose that the peculiar sensitiveness of collodion was due to the chemical nature of gun cotton. I inferred therefore, that ordinary paper, when converted into gun cotton paper, would prove advantageous for photographic use. I found no difficulty in making the gun cotton paper without injury to its original color or strength, but on trying for printing in the ordinary way, I was unable to discover that it acted materially different from ordinary paper. The fact is worth recording as the first experiment of the kind.

I am not satisfied with the common explanation of the quickness of collodion, viz : porosity in the usual sense of the word. Is it possible that albumen, paper &c., are made up of the organic cells into which the excitants do not pass, but that these cells are broken up by the perfect solution of the gun cotton? Is albumen like starch, made up of feculae, only finer? Let us overhaul theories and make notes.

EDITORIAL MISCELLANY.

——The Cutting patents are still the subject of immediate interest to photographers. We talk a great deal about them, arguing abstruse points of law, (splitting hairs like lawyers,) make historical researches, and take more interest in photographic publications than ever before. A conviction prevails of the utter unsoundness of the patent claims, and little fear of the issue of another contest in the Courts. But very few in the profession are willing or able, single-handed, to fight the battle for the whole: so combinations for protection are talked about. We have had voluntary offers of contributions to a large amount.

The publishers of this Journal propose to devote one-half of its subscriptions, received between the dates of Jan. 20th and March 1st, to a defense fund for the benefit of subscribers. If no occasion should be offered for the use of the money in a suit at law, it will be applied for the general good, in the improvement of the Journal. A record of the subscriptions, and the particulars of its disbursement, will be published. Will our readers please assist in making this offer known?

We are indebted to several friends for letters commending our course, and calling our attention to records of the use of bromine previous to 1854.

Since the 20th to the present time, subscriptions have been received from the following persons:

M. O. C., N. Y.; C. D., Pa.; H. M. P., Conn.; J. M. S., Fla.; L. C. E., N. Y.; H. R. L., N. Y.; J. B., N. Y.; H. J. H., N. Y.; B. & W., Conn.; L. B. T., Pa.; E. G. R. I.; J. N., Texas; J. S. C., Mass.; P. H., N. Y.; P. McG., N. Y.; S. D., N. Y.; H. S., Jr., N. Y.; A. C., N. Y.; R. & L., O.; R. C. N., Conn.; J. W. P., La.; C. S. Jr., Mass.; G. W. V., Mass.; W. L. N., Conn.

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

Photographic Experiments—Ampthill.

I soon availed myself of my chemicals, to try experiments in collodion, but feeling disinclined to be confined to positives, wrote to Mr. Hocken for necessary chemicals, a glass pan and phot. paper, and also for instruction in the paper process. Collodion positives were made in those days by backing the collodion side with the smoke of a lamp, or a piece of black velvet; soon came the articles from London, with the glass pan broken, and a letter from Mr. Hocken; one side of a sheet of note paper contained all my instructions in photography, something thus,

Dear Sir:

Salt. . . . . dry.
Sensitize, ... dry.
Expose and fix.
Soak thoroughly. Yours truly,

J. B. Hocken.

'Tis said that brevity is the soul of wit, and if brevity is the essence of photographic instructions, I was amply supplied; after one more broken dish and at last one whole one,—a sheet of plate glass, with glass sides, fastened on with gum shellac,—I tried my process with tolerable success, for in those days there were no really negatives, as we now know them, they were simply overdone positives; the systematic mode we now have of reversed lights and shades, was confined to paper: re-developing was as yet unknown; ammonia nitrate had only just been communicated by Mr. Taylor: one of the most valuable and least acknowledged variations in the art.

There being no chance of making a decided hit, I accepted the offer of Shepherd to accompany him to Ampthill on the look out for a place, as I had much against his desire decided on a change, and engaging the only available place there, I resolved to try my luck for a week or two, leaving Mrs. Skylight in Bedford, though loath to do so, not liking the parties she remained with.

I had sent my luggage by the carrier, and walked through the beautiful park of Ampthill, and was proceeding on my way on the road, and near the town, when I suddenly discovered I had no cash, or at least but a few shillings. I knew well I ought to have twelve pounds after having paid my debts and left some with Mrs. Skylight, but where was it gone? A nice predicament in a strange place; however there was no other resource than to try and make some. Ordering some circulars, and getting them addressed by the barber, the factotom of the village, I commenced business the next day, and had the good fortune to be in funds by the time the printer presented his bill. A letter from the curate in Bedford to the curate in Ampthill, had obtained the good favor of the latter, who obtained the patronage of the rector and wife, so that before I took my seven miles' walk to Bedford, on Saturday night, I was quite flush of funds. I found I had left my cash in my other pocket, and Mrs. Skylight had been persuaded by Shepherd to lend it to him, and had gone with his wife to London on a pleasure trip. A fine prospect methought, of getting it back again; how agreeable, had I been unsuccessful in the village of Ampthill, It certainly prevented me taking Mrs. Skylight back with me, she would have to board some out, and try and get back the balance. I took the precaution to take some bread with me, for singular as it might seem, we had not tasted a piece of good bread in Bedford, whether it was that none is made there, or we did not find out a good baker I know not. But the Shepherds declared there was no better to be had; true we bought where they recommended; true also, Ampthill is famous for bread.

Business commenced as soon as my return on Monday, chiefly through the influence of the curate, a young man exceedingly fond of his pony, whose portrait I took for him several times alone and in the gig. The curate was exceedingly popular from his charities. People said he spent more than his salary in charity, and that he drew on his small private fortune. Yet he was treated with reserve from an impression that he was a Pusyite, and thus a converger towards the church of Rome; the rector was also fond of the portraits of his horse, as was also his wife, neither of whom had their own taken. The rector was the antipodes of his curate both in appearance and manner, being a man of the world, tall and thin, and quite lively for a parson; the curate, grave and short. Ampthill is quite remarkable for its private gardens, one of which, the Brewer's —a Quaker—was almost as beautifully undulating as the park. Quite an establishment was there in Ampthill, in the shape of a reading room established by the Barber, a place worthy a large town. The Barber was very successful in his effort, and in addition to the reading room, had the best assortment of books and stationery in the village, to say nought of a stock of segars. One would have thought him a Yankee or at least a former denizen of a large city; I looked upon him as a valuable resident, and the more admired his versatility when he informed me he would undertake any printing I might require. A worthy young schoolmaster confided his love affairs to my keeping, thinking probably my travelled experience might afford seasonable advice; the affairs of the village were soon under my cognizance, and had I sought it, I might no doubt have been posted up in every detail concerning everybody, from the odd, droll, and old fashioned glover, to the lord of the manor. Garden scenes were the delight, and I was generally bobbing around, camera in hand, my landlord kindly carrying some of the apparatus, to take the various groups. Once I forgot to put mercury in the bath, and developed a picture by the particles clinging to the rough iron.

One day the curate gave me a letter of introduction to the pastor of a distant village, thinking he might require some pictures, but having a distaste to seek work personally, a customer who had become an acquaintance, proposed going with me; so one afternoon when business had slacked off, we started across the fields for a short cut; when nearly there, it commenced raining at a terrific rate, and being thinly glad, we were soon soaked. However, we pushed on, and arrived at the parson's house with the letter. The house was quite a large one, and well situated in extensive grounds. Upon arriving there, the maid took the letter to present to her mistress, the parson being out, and politely showed us into the —kitchen; after waiting quite a long time, I received word that Mrs. Rector would present the letter to Mr. Rector, but that she, Mrs. Rector, had no order to give on the subject, and we started home. The rain continued with unrelenting fury, when glad for a chance of escape, my companion knocked at the door of a humble farm house, where he had sold some trifling articles of dry goods. A good noggin of strong ale was speedily set before each, and pleasant conversation entered into; condolence for our wet condition cheered us up; the rain abating, we again started, when my companion managed to pilot me in safety through the dark bye ways. The room I occupied having a permanent tenant engaged for it, I had to cut my prosperous career short as no other could be obtained in the town. Most of the houses being furnished with the old fashioned lattice windows, while those with modern windows were generally occupied by persons whose means enabled them to keep the whole house.

I was very anxious to go to the beautiful town of Woburn, but Mrs. Skylight's health prevented the journey across country, so taking the advice of my pilot, I hired a cart to take me to have a look at Hitchen, on the great northern railroad, taking all my stores with me. On the journey through a beautiful country, the driver pointed out two churches, each with a flock of under two score, but with pastors who received good salaries; forgotten arrangements of the past; populations had changed in the course of time, parishes had been altered, dissenters had made arrangements for themselves, but salaries remained unchanged; parsons were too pious to think of filthy lucre, though they received it without earning—why should they know anything about cash? Leaving my fixings in the art, I took some dinner at the "cock" where I learned that bread and cheese was as much a dinner as a full course, as far as charge went, they probably thinking it my own fault for being late, and not asking for better food.

I was fortunate in obtaining a good room with a bow window, and started off for Mrs. Skylight. The worthy Shepherds had a tolerable bill against us, propably charging a high interest for the money they had borrowed, the balance they were to pay in a week, Mr. S. would bring it himself; so hiring a carriage, we started off for our new scene of operations and were duly installed in Sun st., when I lost no time in preparing for business, and Mrs. Skylight for cooking, and other domestic necessaries and comforts.

From Photographic Notes.

ALCOHOLIC COLLODION.

The question of the best formula for collodion is one which can easily be settled by experiment. Pyroxyline is insolluble both in absolute ether and in absolute alcohol, but it is soluble in any mixture of the two lying between one part ether to six parts alcohol on the one hand, and about ten parts of ether to one part of alcohol on the other hand. What then is the best proportion to employ between the ether and alcohol? That point may easily be settled beyond the possibility of dispute. It is well known that the instability of iodized collodion is due chiefly to the ether which it contains; it is also well known that the sensitiveness of collodion is increased in proportion to the preponderance of alcohol. We should conclude therefore *a priori*, that by using the mininum quantity of ether and the maximum of alcohol the stability and sensitiveness of collodion would be increased; and this is found to be the case. It is found also that collodion containing the maximum quantity of alcohol gives a film the most free from structure, the most adhesive to glass, and the best able to resist violent treatment in washing. It only then remains to see whether there are any practical inconveniences in using for general purposes collodion which contains the maximum quantity of alcohol. It is evident that a small excess of ether must be present in order to meet the loss from evaporation, otherwise the film would set too quickly, and the collodion would form ridges upon the plate, and drop in the form of jelly from the corner of it into the bottle. There are three states which collodion assumes, viz., the fluid, the gelatinous, and the hard skinny state. Collodion which contains the maximum of ether when poured upon a plate passes rapidly from the state of fluid to that of skin; particularly in hot weather. Collodion which contains the maximum of alcohol passes rapidly from the state of fluid to that of jelly, and from jelly very slowly to that of skin. Both these extreme conditions must be avoided, and collodion must contain sufficient ether to allow the operator to manipulate conveniently and with certainty. About one part of absolute ether to three of absolue alcohol is a very safe, and good proportion. The collodion then sets quickly upon the plate, but remains in a state of jelly for a long time without getting dry and skinny, which is very convenient in hot weather. On the whole, the above proportions are perhaps the best. It is not true that alcoholic collodion is an inconveniently long time in setting. M. Duchochois is certainly mistaken in this respect. According to our experience alcoholic collodion is superior in *every* respect to that in common use. We know of *no* drawback to the use of it.—Ed. P. N.

(The above remarks are appended to the reprint of the paper on p. 208. The Editor of *Notes* appears to ignore the various qualities of the gun cotton.)—Ed. Am. Journal.

THE CUTTING PATENT AGAIN.

BY H. GARBANATI.

It appears I have much underrated the value Mr. Cutting puts on his wonderful bromine *discovery*. $250.000 is by no means the value of it to the photographic world. The twelve Apostles, (they say there are twelve interested) are by no means satisfied with so insignificant a sum. They want more than that per annum, for having been lucky enough to lay claim to a sole monopoly of the privilege of putting a commercial article in a newly discovered agent in photography, given freely to the world by its applyer. The fact of using bromine in the now favorite, collodion, instead of the discarded favorites, albumen &c. even though by no means satisfactorily proven that Cutting & Co. were the first by hundreds, to apply it, is considered a sufficient reason for imposing an annual tax on all who use collodion, even though some invent bromide those great discoverers never thought of; beware, or Mr. Cutting's lucky boldness will put a tax on your brains whenever you dare to think of bromide in collodion. The thing would be too ridiculous to argue about were it not dangerous, for they have commenced their work, and the profession so far, have taken but trifling means to counteract their boldness. The would-be monopolists, have already sent in printed forms to the New York operators, filled up with their names and the rate per annum, the lowest twenty-five dollars, a second class gallery, fifty, and one, not one of the finest by any means, was modestly asked one hundred dollars per annum for the right of using, what in justice should be as free as air.

Just take a careful glance at your prospects, artists; you are called to pay from $25 to some unknown sum per year. You must remember if you pay one years' liberty, no matter how small a sum, you confess judgment. What guarantee have you that the sum will not be increased as they find out, or pretend to find out, that your business improves? Do you not know, that in the payment of the first years' tax, they can assess you for the number of years you have used collodion, in a like sum, on your own confession of judgment. Is it not necessary then, for your own interests, which I have not so much in view as the principle of the thing, even though some of you are regardless of the principle in the absorption of your interest, is it not necessary to combine, and defeat this enormous swindle on art? I tell you plainly, that at first I thought the success of the "Apostles" too ludicrous to be contemplated seriously, until I find you apathetic, and they energetic. Why Barnum himself, might exhibit them, with blushes at his own insignificance in the art of getting something for little, for they seek an enormous something, for nothing at all. Barnum is no more to be compared to the banded "twelve," than General Tom Thmub to Napoleon, or Julius Cæsar. There is another view of the case to be considered; it unsettles business; people are afraid to go on,—men, anxious to sell, cannot find purchasers, from the uncertainty of what taxes, beside rent, are attached to the business. If you are determined to pay a tax of twenty-five dollars and upwards, because you are engaged in the photographic art, do it in a manly manner, and for a noble purpose. Pay your yearly tax into a fund for the benefit of disabled photographers, or the widows and orphans of photographers; a desideratum, an undertaking you ought to engage in; engage halls for exhibitions of works of the art, anything good, but not as tax for the privilege of practising a right. Pay it, and you will save twenty-four out of the twenty-five dollars the first year, and *all* the other years, for the one dollar per man would inevitably settle the question for ever, and give the opportunity to those who have paid the tax, to make the taxers disgorge. But you must kill the snake, not scotch it. You must engage the best of legal talent, but *you* must do it, not leave it to a single man, for no one man will undertake it.

Possibly, Cutting & Co. will benefit the profession in a manner they neither calculated on nor designed. This excitement may, and ought to be the cause of banding together the great photographic profession. You have interests as a body. The art ought to be ennobled, and more than that, it ought to be protected. Patents are sacred protections of men's brains, but ought not to be the means of monopolizing dodges; there are too many in the photographic art. If a man can find out some kink in manipulation, in mixing his chemicals, he reaps the benefit in his own operations, but he ought no more to tax others for doing the same thing, than if he found out a short cut to get from one part of New York to the other, or the man, who first discovered that it was the same distance around the base of a hill, but caused much less fatigue than going over it. Has anybody patented the sole use of the trade winds? any one the currents of the ocean, anybody the advantage of the knowledge of the variations of the needle, or the influence of iron ships on the compass? Yet it took much study and observation to fix these facts, but not the use of bromine in collodion, after it had already been used in daguerreotypes, and in albumen. Form a photographic society for mutual protection, and let it protect inventors in photography, but let it see that they do invent, and not allow patents on well known things and the inventions of others.

From the Photographic Journal.

ON DRY COLLODION PROCESSES.

BY DR. HILL NORRIS.

A thorough comprehension of the fundamental principles of dry processes is the only guarantee of a fair proportion of success in this branch of photography. It is not sufficient to possess recipes and formulae; for photography, like physic, cannot boast of specifics The remarkable list of substances which stretched ingenuity has suggested to preserve the capillary condition of the collodion film is a witness to the fact, and evinces the almost total want of fixed principles to guide the photographer in a proper selection. We must hope that this empiricism, so fatal to true progress, will ere long give place to a more philosophic spirit.

It is proposed to-night to discuss the subject of dry collodion under four separate heads, viz: Adhesion of the film, sensibility to actinic influence, retension of the invisible image, and development, as under these four divisions the entire phenomena of dry collodion may be treated.

First, then, adhesion of the film.—Non adhesion may occur in two ways, viz.—by blistering and by stripping or washing up. The former is peculiar to preservative substances, the latter to collodion, without any superincumbent adhesive substance. The blistering results from the preservative substance expanding when wetted. The stripping up, or washing off, is the normal condition of a simply washed and dried film of collodion; to steer between these two conditions is therefore clearly our course, avoiding the blistering on the one hand and the fragility of film on the other. Fortunately this is easily accomplished, as collodion will bear a sufficient amount of expansion, and at the same time a very small amount of gelatine or albumen will confer stability on the film.

Applying these principles, if a given collodion rises in blisters, with the application of a four grain solution of gelatine all we have to do is to reduce the strength to two grains, or even less, as one grain is amply sufficient for conferring stability on the film during the various subsequent aqueous operations. It must be understood, that all these remarks refer to dry processes properly so called, as from this category all such are excluded as contain substances having marked hygroscopic properties, or in a word, all such as will not bear moderate friction with the hand when dry. It has been said that the coagulation of albumen in the film prevents blistering; but this appears to be an error, for if any strength of albumen be left on the plate, blistering will undoubtedly occur. Meta-gelatine has also been advocated on the ground that it might be applied cold; but my experience contra-indicates the application of cold solution as likely to give 50 per cent, of stained plates by an incomplete removal of the nitrate of silver, which being dried in the film is reduced by the pyrogallic acid. Meta-gelatine, in the hands of amateurs, probably gives greater freedom from blistering, owing to its fluidity and a smaller quantity being left on the plate; but this is counterbalanced by the tenderness of the film, *i. e.*, its liability to strip.—We now pass on to consider the sensibility of the dry film to actinic influence. The greatest degree of sensitiveness with which at present we are acquainted exists in the most exalted conditions of the wet collodion film; and as that film is saturated with free nitrate of silver, photographers have generally imagined this to be the direct cause of sensitiveness, and that its partial or complete conservation in the film would confer the much-to-be-desired end, forgetting that the state of the nitrate in a dry is totally different to that in a damp process. By the use of organic substances, it is quite possible to retain the whole of the nitrate in the film without decomposition; but it no longer exhibits its peculiar influence as in wet processes, nor is it correct that the existence of an organic salt of silver (as the albuminate) confers any sensibility. The fact is, neither nitrate of silver or any organic salts of this metal have any direct action in the sensitiveness, but the former acts in an indirect manner, by preserving the *integrity* or "*intact condition*" of the compound on which sensitiveness depends.

The maximum sensitiveness of a dry plate from any given collodion, is obtained by simply washing such plate from the nitrate bath with distilled water and drying. No preservative application capable of complete dessication at present known, no matter how applied, has the slightest accelerating effect; but, on the contrary, many substances so employed have a distinct *deteriorating* tendency. Gelatine and albumen are in this respect perfectly neutral, but the latter so only when its affinity for metalic salts has been satisfied, as under other circumstances it tends to the destruction of the sensitive compound, ultimately reducing the plate to complete insensibility. Looking upon moderately sensitive collodion as uniting plates without any preservation, or preserved with gelatine or albumen, will be represented by six, or in other words, will require six times the exposure. It was not my intention here to enter into the chemical nature of the sensitive compound, as this with the nature of the invisible image, will be found fully discussed in a paper preparing for the Royal Society of Edinburgh; but as the subject has been alluded to, I will call your attention for a moment to the composition of the iodide used in photography. On precipitating iodide of silver by double decomposition, taking care to retain an excess of silver salt, we have a decidedly yellow precipitate, and on repeating the experiment with the alkaline iodide in excess, we have a white salt. On the very outset of our inquiries we observed their physical difference, and numerous subsequent experiments, have led me to infer, that instead of their being only one compound of iodide of silver in use in photography, there are no less than four. The composition of which may be thus expressed—

$Ag.\ 1 + Ag.\ O,\ NO.\ 5$	The collodion albumen or paper compound.
$Ag,\ I.$ . . .	The daguerreotype compound.
$Ag,\ I + K\,I$ . .	The insensitive iodide of chemists.
$Ag.\ I^2$ . . .	The precipitate with free iodide in excess, also insensitive.

Or in other words, the most sensitive compound of iodide of silver consists of one equivalent of iodide of silver, plus one equivalent of nitrate of silver. This salt, in an amorphous condition, but not so sensitive, may be crystallized, as shown by Schauss, and is still sensitive as in its amorphous state. It is immediately destroyed on contact with free iodine or alkaline iodide, and is depreciated by water, but not absolutely decomposed, at least so long as the smallest proportion of free nitrate of silver exists in it. Indeed, iodide of silver and nitrate of silver cannot exist together without determining its formation. Alcohol does not decompose it; hence, if the free nitrate of silver were soluble in this menstruum, and could thus be removed and a preservative substance applied, itself having no tendency to discompose this compound, we might make a dry plate as sensitive as wet. The daguerreotype compound comes next in order of sensitiveness, but is far inferior in this respect to the former compound, the ratio being about one to thirty. By a peculiar combination with bromine, its sensibility is well known to be exalted, but even then it does not reach the sensitiveness of the former compound. The remaining salts are both nearly, but not absolutely, insensitive to light, but so much so as to render them useless in photography. Some explanation may here be necessary as to the various degrees of sensitiveness found in collodion albumen and paper processes, but as we have seen that mere washing interferes with the integrity of the compound, it may be readily conceived how certain substances by introducing special affinities, diminish the sensibility; and this is borne out by the fact, that where the conditions are the most perfect for preserving this compound, we have the greatest sensitiveness, owing to the presence of excess of alcohol, ether, and nitrate of silver.

Retention of the invisible image—Dry collodion plates possess the singular property of returning perfectly to their former sensitive condition, after having been exposed, if kept for a sufficient length of time in the dark. Extraneous conditions influence, to a great degree, the rapidity with which this occurs, requiring as it does sometimes months, and at other times weeks only. Damp or moisture assists materially this action; and therefore damp processes must be expected to fail in this particular. The thickness also of the preserving pellicle modifies the result; for if thin, this phenomenon occurs more rapidly, probably on account of the readier access of moisture, the presence of which appears to assist in the reversion of the chemical changes induced by light. This will at once indicate the impropriety of setting aside preservative substances, even if collodion could be made to develop well without them. Minute proportions of the vapours of iodine, bromine, acetic, nitric, and sulphuric acids, also destroy the image: but as some of these remove also the sensitiveness of the plate, their action is not analogous to the spontaneous return of the exposed compound to its normal condition, and is referred to here as a caution against keeping exposed plates amidst the emanations arising from a well-stocked laboratory.

Development—In development as in sensitiveness, the wet plate is our model; and certainly the best test of a really good dry process, is the ease, rapidity, and cleanliness with which it developes with pyrogallic acid. Inferior processes may yield tolerable, or even good, results by the slower method of development *with gallonitrate.* It may be stated as a rule, that no plate should occupy more than five minutes in its complete development, and should not require the developer to be renewed more than once. The greatest objection to the use of albumen, as a preservative substance, is the fact, that when coagulated, it resists the permeation of liquids and prolongs materially the development. This does not apply with equal force against collodio-albumen, as the particles of coagulated albumen have not that continuity, or do not form a skin over the iodide.

It has been shown in former papers, that brilliancy and intensity depend almost entirely on the porosity of the film, and that this condition was common to collodion long iodised.

It has been recently suggested to bring about this condition by means of ammonia, and if from five to ten minims of strong liquid ammonia be added to twenty ounces of plain collodion, in about a week the pyroxyline undergoes a change, technically known as craping, the film being visibly opened—if now a small proportion of new collodion be added, just sufficient to remove the openness, we have a product suitable for dry work. The collodion so treated should contain more than the usual quantity of pyroxyline, and should be iodised freely as the action of the ammonia renders the collodion thin and fluid.

In conclusion, I must allude to the importance of temperature in development, as cold entirely suspends this action; therefore in cold weather it is necessary to pay special attention to this particular, and if the chemicals are below 60°, to warm them artificially, and also the water with which the plate is wetted.

THE PATENTS.

Jersey City, February 5, 1859

Mr. Editor:—As the photographic community has been thrown into a ferment by the decision in favor of the Cutting patents, it might be as well to calmly consider for ourselves the justice of the case.

If a patent be taken on the fourth of July, 1854, for any thing, say the use of bromide in collodion, can the patent be sustained if it be proved that the bromides were used prior to that date? It is true that patents are sometimes retrospective; I do not know if it be so in this case. If so, Mr. Cutting claims to have "had it in successful use in the month of April, 1853," and says, if required, legal proof shall be furnished of the same, (Letter of June 7, 1854.) The proof however, does not go further back than July 1853, and the commissioner says "that is one month after the date of Mr. Crooke's paper in England. The specification is accordingly returned that you mav cancel the fourth claim, and amend the papers to suit" (letter June 22., 1854.)

Now, allowing the claim to remain just as it is, let us see how far it can be sustained.

The use of bromide in the daguerreotype process is so well known to act as an accelerator, that there cannot be the smallest doubt that the mind of the practitioner when he came to work in collodion, would revert to bromine as an accellerator in this process also—and knowing that Iodine which was used in the daguerreotype process, was now used with a base in collonion, he would, without doubt consider that bromine should be used with a base also—It is a course of reasoning so natural, that every man is gifted with it, and daguerreotypists, as a body, are by no means deficient of it. The question now is, ought a patent to be granted to any one man for doing that which all men are alike able to perform, without using any other means than the mere reason, nay, almost instinct which nature has bestowed on them. If so, then it becomes a mere matter of cunning who shall get the ear of the commisioner first, either by dexterity or interest, and the office which was established for the protection of the arts and sciences, becomes a tyrany for the oppression of the people; and then we are at liberty to consider what other means are left to escape from the thraldom of an unjust act. Fortunately, in this case, there are not wanting good and substantial reasons for our consideration.

In 1853, M. Laborde published his process on bromized collodion—" I have studied the action of bromides by themselves " and in combination with collodion," and, after giving a reason for using certain bromides (that of their being soluble in alcohol) he gives the best proportion.

Bromide of Cadmum	12 gr'ns.
Iodide of potassium	03 " "
Collodion.	I½ oz's.

It is unfortunate that we are not at the present moment able to fix the exact date, but there can be no doubt we shall be able soon. It could not have been later than October first, because it was published in America on that date. Now it is reasonable to suppose it would take at least one month before the republication here; then if we consider September to be the date of publication in France, we are left just two months behind Mr. Cutting's " successful use" in July 1353; but we ought not to restrict M. Laborde to two months—in making up his mind as to publishing his experiments. Mr. Cutting was one whole year—from the first of July 1853, to July 1854

—and in common charity we ought to allow to one philosopher the same priviliges another claims: this, would of course, place M. Laborde one year before Mr. Cutting.

Suppose we go a little farther back. In a work published by Robert Hunt entitled "Photography—a treatise &c"—a reprint of which was published in New York, January 1852, page 93, we find that, "M. Blauquart Everard successively employed albumen, gelatine, serum, *collodion*"—and he goes on to say " other substances have been recommended for application on glass—the albumen is recommended as being the most perfect. The iodizing is then given, 100 grains iodide of potassium, and about 20 grains of the bromide of potassium.

Now the argument here resolves itself into this form. Is it likely that the bromo-iodizing was not tried in the gelatine as well as the albumen? To doubt after being told is simply absurd, and if in the gelatine why not in the serum, and also in the collodion? The fact is the bromo-iodizing was never changed except probably in proportion—the film alone was changed, and the albumen suited them best, but this does not prove that collodion did not suit others better.

In the same book, page 87, we read as follows, "M. Le Gray has also employed collodion gun cotton dissolved in ether, mixed with spirits of wine, and spread over paper *instead* of isinglass with very good effect." Now the question is, what was in the isinglass? on page 84 we are informed that it was iodide of poeassium 200 grains, bromide of ditto, 60 grains, chloride of sodim, 34 grains. Now here we have the fact that the bromide of potassium was used in 1851 by M. Le Gray, and lest there should be any mistake, afterwards, wiih a prophetic eye no doubt to the Cutting patents, he describes what collodion is, "gun cotton dissolved in ether, mixed with spirits of wine," (alcohol.)

Now, after these distinct statements, would any sane man grant a patent for the use of bromide in collodion, and yet these facts were all published previous to July 1854. How comes it then that a patent was granted? On the 4th of July 1854, when all were jubilant in honor of the day when the chains of the tyrant were broken forever—a citizen of the very city whose sons first stood the brunt of battle, and upon the very day which was set aside in commemoration of the event, busied himself in binding his fellow countryman with chains far more ignoble because mercenary, far more disgraceful beause unjust—and the sons of the very men who so bravely fought for liberty, it is reported, have succumbed and paid tribute to live in inglorious peace.

W. Campbell.

From Photographic Notes.

PHOTOGRAPHY UPON WOOD.

BY THOMAS SUTTON

One of the most important uses to which photography may be applied is that of obtaining a design upon a wood block from which the engraver can cut in the ordinary way. This subject has for some time occupied the attention of experimenters, but no very successful results have yet been obtained. We are inclined to think, however, that carbon printing may afford the means of solving the difficulty. The process which we recommend for trial is as follows;—

1st.—Take a negative in the usual way, and print from it a carbon print upon paper by Mr. Pouncy's process.

2nd.—Prepare the wood block in the usual way, by rubbing over it a mixture of some white pigment ground with alcohol, or gum-water.

All is now ready for the last operation, which consists in transferring the black carbon print to the whitened surface of the block. This is exceedingly simple, as will be seen.

3rd.—Moisten the carbon print with an alcoholic solution of caustic potass, (the proper strength may easily be determined by trial,) and lay it immediately, face downwards, upon the whitened surface of the wood block; then lay a piece of cardboard upon the back of the print, and rub upon it vigorously for a minute or two with a paper knife, or burnisher;—on removing the cardboard the design will be found transferred to the block.

This operation only occupies a couple of minutes, and the design is then in a fit state for the artist to work upon and hand over to the wood engraver.

Such is the process which we think the most satisfactory solution of the problem of photography upon wood.

CUTTING'S PATENT.

In discussing Cutting's patents in your last number, you do not appear to be aware that bromide of potassium had been used some time previous to the issue of said patents. You suppose it must have been tried. Now both bromine and bromide of potassium were used, as will be seen from the following, which I copy from "The ambrotype and photographic instructor, by M. H. Ellis, published by Myron Shew 118 Chesnut St. 1856. In his remarks on Cutting's patents, which are published at length, he says, " since some photographers use other bromides instead of bromide of potassium, we understand he claims that his patent includes the use of bromine in every form." The following extract will show that bromine was used in Philadelphia more than two years previous to the date of his patent. In the journal of the Franklin Institute for June 1852, we find among the proceedings of the monthly meeting, May 20th, the following :—" Dr. Rand exhibited some further specimens of Hyalotypes,* taken by the collodion process, by Dr. C. M. Cresson, to which he had called the attention of the members of the last meeting. By the addition of bromine, the sensibility of the 0lm had been very much increased. The pictures exhibited were taken in from six to thirty-two seconds in diffused light, in one quarter and one half seconds in the open air."

We have a work on photography published by A. Hart, being a reprint of an English work, by J. H. Croucher. In giving the process of taking possitive photographs on glass, we find on page 139 the following—" I use the collodion as recommended to be prepared by Mr Archer : to this I add one grain per ounce of Arsenious acid : a very little bromide of potassium also seems to have a beneficial effect." This work was published here in May 1853, and of course must have been published in England some time previous. Cutting's patent for bromide of potassium is dated July 11th 1854, more than a year after, so that he has of course been anticipated, and his patent is null and void. Bromide of potaasium was not included in his English patent. D. B.

EDITORIAL MISCELLANY.

———Lately the general sentiment regarding the bromide patents seems to have assumed a more definite form, and excitement has given place to quiet determination. The bromide claims have been examined and found wanting. Any attempt to enforce them will be met with determined and unyielding resistance. The photographic profession has been thoroughly aroused, and for this occasion at least, they will act in harmony. Material aid will not be wanting for any one who may be called upon to suffer;—indeed there are plenty of men who are willing to become martyrs or champions.

We are not aware that anything as yet has been done by the patent owners to carry out their wishes, beyond offering rights for sale—and in some cases, threatening—nobody wants to buy; no one is frightened by threats.

We have received scores of letters about the patents—and in our next we purpose to make extracts from twenty or thirty of them.

———The names of new subscribers will appear in our next.

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* Photographs on glass were called hyalotypes at this time. Messrs. W. & F. Langenhoim were the first to produce them in Philadelphia.

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

Hospitality and success—Hurrah for Hitchen.

The first thing to be done was to get circulars printed, and I had been recommended to a printer—a P—less and H—less Thompson. Tomson was an original in his way, short, and slightly humpbacked, and as usual with such persons, quite self-satisfied. Tomson was quite a business man; knew how to make a bargain, that is, he would bar-gain to the other party to the agreement if he could get a chance. Tomson was induced by the temptation of getting a picture at a nominal price, to be the first sitter, some well known character was required to exhibit to the townspeople, and who could mistake Tomson. Unfortunately, for some days Tomson was the only customer; dull indeed was the prospect of trade. On the third day my Ampthill cicerone on the wet expedition to the Parsons, made his appearance, and introduced the two daughters of the landlord of the "Cock" with whom he was well acquainted, and they brought others, so that there was a little spirt of trade. A visit from Mrs. Skylight's mother enlivened the scene a little.

Some one strongly advised me to call on the rector who was potent; what he did would be followed; much as I disliked it, I resolved to call, as the town was large enough to command a good business, and some ought to be done.

"Is Mr. Rector within?" "He is in his study." "Please to hand him my card," "Mr. Skylight, American daguerreotype artist," on a neat piece of card board, nicely impressed from a copper-plate, was duly handed to the Rev. Rector. Presently the servant handed me a card and said, "Master does not want anything in your line." I looked, 'twas my own card returned. Mr. Rector was the pink of politeness, and I was properly humbled I thought. Never mind, I should be as polite as the Rev. did I express it, and too much politeness you know, is nauseating. As I passed the parlor window, I observed some young ladies, who set up a giggle; doubtless they said to each other, "the impertinent Yankee, to expect we would sit to him for our pictures." I was told they were the Rector's daughters, and said to Mrs. Skylight, "my dear, if I were a single man, I assure you I should not desire to marry one of those young ladies;" would they not have thought that double distilled impertinence had they heard it?

Now this state of things was by no means inspiriting; we were not clearing expenses; people said customers would flock in, but they did not, still they said, wait. One day, quite disgusted with hope deferred which was making the heart sick, I got Tomson to print a neat card, "The last week," and putting it in the windw, I got up early in the morning, for the purpose of walking to Baldock, some six miles distant, in search of rooms, feeling as if I could not afford to ride, business being so scarce and time so plentiful. A drizzle prevented the dust turning to mud on my clothes. I liked the aspect of the town and speedily secured a fine room at the "White Horse." I walked back again, expecting to take up our quarters there in a week. When I returned, great was my surprise to find several engagements, the notice had had its effect. I had unconsciously baited a trap. People had been procrastinating, and now began to think they would lose the "delightful opportunity." Several ladies had expressed the greatest interest in our welfare to Mrs. Skylight, and presently put their good will into practice; there was Mrs. Dryer, a lively and pleasant lady, determined to make Mr. Dryer have all the family taken, and Mr. Dryer like a kind and obedient spouse, obeyed, rather liking it than otherwise. There was middle aged Mrs. Hawks the philanthropist of the town; what a high state of excitement—she is determined all the respectable people of the town should have pictures, and she knew them all: and now I was busy in earnest, as hard as I could drive. I took pictures —Mrs. Skylight waiting on customers, at night gilded and colored, rather a disadvantageous time, but no other way; money came in in earnest. A great place was Hitchen, and Skylight made his profit. Opposite our rooms lived a Quaker family—a brewer, who had a splendid garden. Mr. Quaker paid us a visit, and engaged pictures for the whole of his family and the whole family counted up quite a number, including grand parents, uncles and aunts, and cousins, to say nothing of the heads of the family, their children and nurses. As the Californian would have it, we had struck a rich vein. At each success "capital" was the word ejaculated with strong emphasis, until it became quite a byword. The whole town was now quite agog. Skylight and wife were a lion and lioness; our room was crowded all the time, being a small room, I had scarcely space to take pictures in. It might have been called a daguerreotype levee . no chance of going to Baldock, and less wish, so I wrote to the ''White Horse," "Please not hold the rooms for us. I will pay you what damage you have incurred." Mrs. Skylight was an immense favorite with the ladies; being unwell, they vied with each other in doing her kindnesses; they would sometimes meet one another in our sitting-room, one loaded with some delicacy, another with a boquet of flowers, another charged with freshly plucked fruits, and then they would laugh at each other, so prettily catching each other on a similar mission. Our place was crowded with flowers—it was hard to dispose of them all;—fine times had Mrs. Skylight with the large hearted ladies of Hitchen; the gentlemen were not far behind, the wives of several informed her their husbands had requested she would consider herself welcome at any time to perambulate their gardens, and help herself to fruit and flowers; being passionately fond of the latter, she would have readily availed herself of the privilege, but that she had already converted her sitting room into a flower garden, or rather conservatory, from the numerous contributions of the ladies. Tomson had not failed to put his business tact to account, for he obtained permission for me to put my specimens in the corn exchange, where the recognized likenesses of some prominent townspeople gave me much credit, and more cash. One leading Quaker family was quite scandalized and could not be induced to break through the rule of vanity, though the number of Quakers who sat to me for pictures quite surprised me. Having had visits from nearly all the prominent people of the town, including some near relations of the rector's family, (who were amongst my best customers) I was not very much surprised to see the young ladies themselves walk in, when their behavior proved they were educated as ladies, though sometimes momentarily oblivious of the fact, possibly their window giggling was the only case of forgetfulness. With all my admiration of the townsfolks, it was evident there was much scandal in the town, the wonder being that people spoken so slightingly of, should be on terms of familiarity with the scandalmongers and others.

A daughter of one of the ladies we prized the most, was amongst the traduced, yet it was quite easy to see that youthful animal spirits and confiding buoyancy are too often mistaken for levity, or at least there are too many persons willing and ready to avail themselves of its appearance merely for the purpose of talking. Oh! that slander were a flame of fire, that would burn the tongue that uttered it! One day I was called for, to go out and take the likeness of a very old lady, who was troubled with a sort of palsy. The window I could take her picture by, was exceedingly small, yet the old lady had such a wonderful power over her nerves, that she managed to remain perfectly quiet for three minutes, though the effort shook her much; the three pictures I obtained of her, were perfectly sharp and did much good, as the old lady was very popular, and well she should be, having done much good in her time. Amidst our prosperity in Hitchen, our popularity was proven by an invitation to an evening party at Mr. Hawks, who being a leading gentleman in the town, passed us a great compliment, considering we were strangers. At that time I was quite unacquainted with itinerant artists, but have since known many and heard of more, some I regret to say have not conducted themselves as gentlemen, possibly because it would have an assumption of character; others have left their temporary sojourning places in debt, the latter oftentimes may have been a misfortune rather than a fault. But let me make a suggestion to those about commencing that mode of life: conduct yourselves like gentlemen, and a part of gentlemanly behavior is honesty; it is an act of justice to your successors and the profession; it is a guarrantee to your next place of visit, and any other course of conduct will not "pay;" each act of good behavior is an investment for the future; a seed sown in good ground, insuring a crop of ultimate profits; assist in making your profession respectable—post yourself up in works devoted to it, and render it intelligent.

Our time was now drawing to a close in Hitchen, though business was still good. The rooms we occupied were engaged by a dentist, who paid fortnightly visits of three days—but fortunately missed a visit,—and was about returning to take possession. No other place in the town being available, we were obliged to turn from the stream of our success. So Baldock was now again in order; tripping there again, I found the White Horse not comeatable, and engaged apartments at the Red Lion, on most favorable terms; the landlord was new in the business, had heard of us, and being anxious for some excitment in his house, was induced to be liberal in his offer, and the Lion proved better than the Horse would have done, and bore us to good luck.

A LETTER FROM JEFFERSON.

JEFFERSON C. H., Feb'y 20th, 1859.

I have just made a discovery, and hasten to record the fact, it might fade into nothingness, prove as the subject upon which it treats, and become rapidly consumed by forgetfulness. So having a just fear before my mind's eye, I rush off, and seizing my pen, have fixed the idea in fadeless ink. Excuse me if I write somewhat spasmodically, but when a man makes a discovery founded on the discovery of another man, it is natural he should be in a hurry to let the world know it, lest the other man claims both.

You remember, or if you don't, you ought to, that some time ago I marvelled in a sort of querical style, how the dickens the proprietor of the Mysterious Black Bottle Journal, could make it pay by giving it away, or rather by throwing it in places where it might be picked up. Well, though you were not polite enough to inform me, the unsophisticated—I have found it out—that is my discovery.! Great thing is it not? quite as great as the discovery that led to it. Just now visiting a place that shall be nameless, for a purpose that is none of your business, I chanced to pick up some paper put there for a reason that is not necessary to state. Glancing over it I found it was the M. B. B. Journal. In large conspicuous letters, the proprietor made known an " Important announcement, a new discovery, photo. lithography," and proceeded to dilate on his theme as something new that had just been introduced by our friend "Cutting" and another. Aghast! bewildered! at the great flexibility of mind, the versatality of talent of the wonderful discoverer in photography, I suddenly bethought me that I had seen this subject some months ago in the American Journal of Photography, and furthermore, that one of your contributors, since unpleasantly known to the genius, had not paused to cut in, and with hands innocent of gloves, show up the pretensions of the discoverer. Searching over my Journals I found in the number of June 15th, the subject was so well known at that time, that Mr. Joseph Dixon had an article stating he had made photo-lithographs, and published the fact to the world in 1840, and at the same time he sent you an abstract from the Scientific American, dated April 3d, 1854, wherein Mr. Dixon's mode was much commented on. Here is the grand secret, a matter of conscience; the owner of the M. B. B. Journal could not think of charging for paper containing such stale news, especially as the M. B. B. Journal had advocated the claim of the inventor to something else he was not entitled to, and for which he wishes to levy an annual tax on every photographer; ought not a bad lecturer pay for the privilege of boring? Besides is it not worth something for an occasional ride on the highfalutin horse? The case sir, is as clear as dish water, and the motive as pure. And if there were any dangerous tendencies towards backsliding, any probability of backing out and smoothing up the calls of conscience, he felt the more urged when he remembered the bad grammar he inflicted. Rollling up his Pecksniffian eyes, he perhaps, said, "can I with justice, charge for adding to the ignorance that perchance prevails with some of the fraternity, when I tell them "we have recently seen some photo-lithographic bills which would require a good judge of money to detect," would it not be too bad to make them pay for the bother of thinking it was a difficulty to detect what was before them, &c. But that only accounts for the reason of not being paid, *how* it pays is yet the mystery. Possibly a case of pure and unmitigated benevolence. Yet methinks if I, Gossip, wished to be benevolent, and present the profession with paper, I would have it of such a sort that it might be used as a note book, or, for anything they wished. I would not soil it with printer's ink, nor contaminate it with the touch of type, but send it clean, and save the expense of printing. I would have a neat cover, with my name and address, and perchance, an advertisement of my "collodion brassing," which may yet be introduced, and thus if some hundred or two conscientious gentlemen, who *would* insist upon paying for all they received, would send me two dollars per year, I should be well paid, and obtain my purpose of putting nice clean paper to good account without stale news and misleading tales to spoil the gift.

By the way, you pounced on Pouncy in quick time; another case of appropriating the invention of another, though not patented. But what do you mean by Rev. L. L. Hill! John Pouncy! you have them in a distinct sentence with no connecting information.

A few days ago stepping into a gallery I got into conversation with the proprietor, on the Cutting claims. "I wonder who Gossip is?" suggested my acquaintance, "it is strange that in his travels he does not notice the various galleries and say what progress they make." "My dear sir," said I, with much dignity of course, "I should be sorry to see him blow up the profession in any other manner than for their faults and false pretensions, especially as pandering is the chief reliance of other journals devoted to the art." "Oh certainly—certainly," replied he, with some embarassment, for he is a very good fellow in intentions. As he is a subscriber, he will find his question answered, but I hope he won't publish it.

Are the Cuttingites doing anything further than assessing their would-like-to-be income ? (won't they spare me some when they get it,) or have they commenced fire ? Country artists are full of indignation; if they prove as full of determination and cash, there will be nothing left of the Cutting claim, but the remembrance of its impudence.

Oh that some wonderful discovery were again made known, to startle the astonished profession, and supply them with that excitement so needed by their artistic nerves. Do they not think a journal almost valueless without something new every issue, or unless it be crammed with useless and expensive experiments that shall lead them into annoying failures. Had the profession as a body, taken a good Journal devoted to the art, they would not just now be finding out that photo-lithography, the use of bromides, carbon-printing, &c., were not new and of course not patentable by present claimants, nor would they be drawn up in battle array to protect their rights, or perhaps, look on while some individual, patient, otherwise called obstinate fellow, fights for them, whilst they remain in doubt and distrust : but perhaps they like it, so hurra for excitement, and false pretensions, the prolific parents of it. Cannot anybody just find out that alcohol dries quicker than water, and hence is a good thing to use with rotten-stone in cold weather, and so get a patent on it ? what fun it would be to

Gossip.

A NEW RE-DEVELOPER.

BY HARVEY WENDELL.

Having a few months since stumbled upon a method of treating negatives which were wanting in intensity, and having proved it to my entire satisfaction, I feel desirous of giving the readers of your Journal the benefit of my experiments. I do not know that there is anything wanting to make this a *perfect* method of strengthening negatives, however weak they may be, provided the detail of the picture is well brought out. The following is the process :

Take four ounces of developing solution, and add to it about one or two drachms of dextrine solution or paste, such as is used for mounting photographs. Shake thoroughly in order to mix perfectly, and set aside. This may be kept prepared for some days. Then take the negative you wish to strengthen, after it is *thoroughly fixed* and *well washed*, and pour over it a solution of nitrate of silver, about fifty grains to the ounce, and let it run back into the bottle. (I have used for this purpose an old, discolored nitrate bath.) Then flow over your plate quickly and evenly the dextrine developing solution, and leave it on, keeping up a gentle motion of the plate, until the desired intensity is obtained. If the first trial of redevelopment does not produce the intensity you wish, wash your plate and repeat the experiment. All this should be done before the negative has been dried, if possible; but it can be done even afterward, with some risk of removing the collodion from the plate.

The advantages in the use of the above method are, that in taking pictures of children, you are certain of a good negative; if you have succeeded in getting time sufficient for a good, well-defined ambrotype. In copying, it is invaluable. A few trials will satisfy any operator of this fact. You will not *flatten* the high lights, as is the case with some of the re-developing agents. The roundness of the picture and the delicate forms are beautifully preserved.

I have, however, found that where too much dextrine has been added to the developer, there is a tendency to beget small pin holes in the highest lights. The same cause, and continuing the re-development too long, has, in some cases, fogged the shadows. The causes for these results I leave with the savans in the art to explain. I am only stating facts in honest Anglo-Saxon.

A number of my brother photographers, to whom I have given my formula, are using it with good results. I write with the hope that it may benefit some, and with the expectation of being laughed at by a certain small class for whom " there is nothing new under the sun." In either case I shall be equally happy.

ALBANY, Feb'y 9, 1859.

LETTERS ON THE BROMIDE PATENTS.

The following was addressed to Mr. A. Bogardus:—

DEAR SIR:—I have been instructed by Mr. Wm. A. Tomlinson to address you on the subject of your infringement of his patent rights, and say that if you will *forthwith* pay to him the sum of $150, he will grant you a license, for one year, to use the improvements patented by Jas. A. Cutting; the right to which improvements for the city of New York, as you are aware, is now owned by Mr. Tomlinson. Unless you elect to take such license, I am further instructed to say that you will at once be proceeded against with all the rigor known to the law, for your violation of his rights, so fully vindicated in a late suit against you

I shall expect to hear from you to-day or to-morrow, but if I do not, Mr. Tomlinson will evoke the aid of a Court of Equity to protect his rights. Very respectfully yours,

RUPER J. BELL,

129 NASSAU STREET, FEB'Y 16, 1859. ATT'Y, &c.

Mr. Bogardus, having no occasion to use the processes of Mr. Cutting, did not "*forthwith*" make the investment so delicately suggested.

" All the rigor known to the law," and " the aid of a Court of Equity" are no doubt terrifie ; yet we are able to assure his anxious friends that Mr. Bogardus is still quite well,—good natured and prosperous as ever.

On reading the many letters we have received about the patents, from all parts of the country, we find such a similarity, that we think it worth while to quote only such as are peculiar or representative. Nine-tenths of the letters fully approve the course which this Journal has taken. We extract only enough from each letter to give the sentiment.

" For myself I cheerfully pledge myself to give $5, or more if necessary, for defending our rights, and I believe *all* our Alabama photographers will do as much. $10,000 can be raised in the United States if required." M.

" Considerable excitement prevails here in consequence of the formal visits of the patent owners to all the galleries in this city. We are notified that we must make no more ambrotypes. But I believe all customers get supplied as yet with *something*." E.

" I will subscribe 5, 10, or 20 dollars, to a fund of protection. Why not call a convention—say in New York ? Let a few well known photographers sign a call, and it will be responded to from all parts. There would be no difficulty in raising funds—and the convention might anticipate similar extortions for the future." S.

"The idea of CUTTING levying a *tax* of $25 or any other sum on the photo. artists of America, strikes us as ludicrous in the extreme. He will have a 'good time' in our opinion. *May be* it's *all right* though, if it is n't we'll see him through sure." B. & S.

"I think you are mistaken in regard to the artists in Boston paying $25 for Cutting's bromine process. I think but few have paid, and I *know* that many have not paid, and, I also think that if the case were properly tried, no one would be obliged to pay." S.

The above is from Boston. S. is good authority. We were positively assured by Messrs. Tomlinson, Barnum and Turner and some others, that all save one, in Boston, had purchased rights.—Hence, our former statements. What are the real facts?

"I admire your courage in taking hold of this patent business. Are your neighbor editors cowards, or are you in the position of that honest miller we read about in the story of the great chief justice of England?

"At all events the profession look upon you as their champion, and your Journal as truly the 'organ of the photographic profession in America.'" N.

"Mr. Cutting has it now in his power to strike a deadly blow at those cheap picture dabsters, who have done and still are doing so much to degrade this beautiful art. I believe if Mr. Cutting will fix upon a standard price for collodion pictures which are made under his licenses, and sell licenses on condition that they will be forfeited if the regulations are not complied with, that it will do so much for the advancement and elevation of the art, that this decision of Judge Ingersoll will be looked upon as a blessing instead of an injustice to photography." E.

"It seems to me your course is calculated only to irritate the owners of the patents, so that they will make higher charges. By defying them as you do, you will provoke them to anger, so that they will not settle so easy.

"I do not wish to have anything to do with law, and I shall pay $25 rather than have a fuss." R.

One of the prospectusses of this Journal was returned, (postage unpaid,) to the publishers, with the following words written thereon:

"Too old a bird to be caught by chaff." J. H.

The author of the impertinence we have discovered was one of the race of quack process pedlars which we exterminated last summer.—*Hinc cocoanutti lac.* The old bird is caught by his own chaff.

THE AMERICAN PHOTOGRAPHIC SOCIETY.

At a meeting to organize a Photographic Society, assembled in the lecture-room of the American Institute, A. W. Whipple of Brooklyn was appointed Chairman, and M. Haskell of New Jersey, Secretary.

The object of the meeting was stated by the Chairman, and appropriately endorsed by him.

The call for the meeting was read by the Secretary, as follows:

New York, *Feb.* 22, 1859.

Dear Sir:—You are respectfully invited to be present at the American Institute, No. 351 Broadway, at half past 7 P. M., Saturday, February 26, to assist in organizing a Photographic Society.

Suitable arrangements have been made to render the Meeting interesting and efficient.

This Invitation is addressed to the Photographic Amateurs, and a few others who are known to the subscribers to be interested in the progress of Photography.

JOSEPH DIXON,
ALEX. H. EVERETT,
P. C. DUCHOCHOIS,
JOHN CAMPBELL.
LEWIS M. RUTHERFORD,
HENRY H. SNLELING,
BENJ. T. HEDRICK,
CHARLES A. SEELY.

On the part of the Invitation Committee it was stated, that about forty invitations had been sent, some of which however, had not reached their destination; that they had received expressions of deep interest in the proposed society, from gentlemen who were unavoidedly kept away by reason of illness or previous engagements.

A letter from Joseph Dixon of Jersey City was read, regretting his inability to be present on account of severe illness and suggesting that the society be organized as a section of the American Institute.

Explanations of the non-attendance of the other gentlemen invited, were offered by Messrs. Tillman, Everett, Johnson and Seely. It appeared that all who had been invited, would desire to become active members of the proposed society.

C. A. SEELY.—In order to procure a full and free interchange of views, and to settle the great questian of the evening, I offer the following resolution:

Resolved, That we do hereby constitute ourselves an association, to be known under the title of "THE AMERICAN PHOTOGRAPHIC SOCIETY."

S. D. TILLMAN.—The chemical effects of light is one of the great subjects of the day. We have much to learn. This Society will render our study easy and more rapid. The relation of light to vegetable and animal life should be comprised within the scope of our investigations. The fact that photography here is a useful art, in which a vast amount of capital is invested, renders a society for its improvement desirable.

DR. DECK.—Would take a great interest in the Society as encouraging and making popular the study of chemistry. Was once associated with Daguerre, and would exhibit to the Society some of Daguerre's earliest work.

JOHN JOHNSON,—Thought it desirable to establish, in connection with the Society, a museum of specimens of apparatus and pictures, with the design of illustrating the history of the art. He had many curiosities which he would be pleased to contribute.

H. H. SNELLING.—We need a society to show that American photographers are not mere mechanics. Photography will be studied and advanced as a science.

THE CHAIRMAN.—Had found Photography a delightful recreation; this society would make it popular. Many of his friends had expressed a desire to learn. In England photographic skill was considered a high accomplishment; photographic news was reported by all the papers.

A. H. Everett.—Fully indorsed the project of a society. There was inherent interest and importance enough. There should be no lack of efficient workers.

The discussion was further continued by Messrs. Timm, Garbanati, Campbell, Hadfield, Cady. Seely and others, when the resolution was put to vote, and carried unanimously.

On motion of Mr. Everett, the Society comprises all present, and all gentleman who had been invited by the committee, and expressed a desire to become members of the Society. Carried.

It being proposed to receive amateur photographers as a class—

H. C. Timm—Amateur photographers have no object beyond instruction or recreation. They will be found to be gentlemen of education and leisure. We ought to have all of them in the Society, yet if any of them prefer not to come, we must not compel them.

Moved that committees consisting of three members, each, be appointed as follows: on Constitution and Laws—Place of Meeting—Nominations—Correspondence.

Constitution—S. D. Tillman, I. Deck, P. C. Duchochois.

Place of Meeting—A. W. Whipple, A. Pell, Jr., H. H. Snelling.

Nominations—A. H. Everett, John Campbell, John Johnson.

Correspondence—H. C. Timm, James B. Brown, Henry Fitz.

The Chairman volunteered to procure a place for the next meeting.

By request, Mr. P. C. Duchochois presented a paper on "The Albumen Process."

Specimens of Photo-lithography, Photo-glyphic Engraving, and Photo-galvanography were handed around. The pictures elicited a lively discussion.

Mr. Seely made an oral communication on the effect of acetates in quickening gallic acid development. Paper promised for next meeting.

Thanks of the meeting tendered to Mr. Duchochois for his paper, and to the Trustees of the American Institute for the use of their premises.

It being now nearly eleven o'clock, the Chairman addressed the meeting on the auspicious beginning of the Society, and the prospect for usefulness. The address was received with applause.

The Society then adjourned, tr meet on Saturday, the fifth of March.

ALBUMEN PROCESS.

BY P. C. DUCHOCHOIS.

Many substances have been proposed to destroy the tenacity of coagulated albumen, and to render it more favorable for photographic preparations, by giving it a greater sensitiveness. But nearly all such substances, besides their solubility which permits to employ them only in very small quantities, have their peculiar inconvenience; thus dextrine, soluble starch tend to render the albumen film more subject to scale and split; Honey keeps it in a too damp state, and sugars very easily establish the fermentation of albumen, thus preventing to keep its solution. I thought that the substance the best suited for albumen preparations, will certainly be that which possesses the following properties:

1st—To become INSOLUBLE when in contact with diluted acids.

2d—To prevent, like sugars, the crystalization of the alkaline iodide and bromide, by maintaining the layer of albumen in an incomplete state of dissection.

3d—To add to its sensitiveness by its tendency to reduce the silver salts. Such is *Glycyrrhizine*, and experience having confirmed me in all that I expected of its union with albumen, I present you the following albumen process as one of the quickest, and giving very fine and harmonious proofs:

ALBUMEN—White of eggs, 1 fluid ounce.
Solution of glycyrrhizlne, 3 fluid drachms.
Iodide of ammonium, 6 grains.
Bromide of ammonium, 4 grains.
A particle of iodine.

Dissolve the iodide and bromide in the glycyrrhizine, add the white of eggs, beat till a thick froth is obtained and let settle.

The glass is coated with this albumen according to the ordinary process, or spread on a sensitive collodion film as in the Taupenot process, and of course the sensitiveness is still greater.

Silver Bath—Water, 1 fluid ounce.
Nitrate of silver, 40 grains.
Iodide of ammonium, ½ grain.
Acetic acid, No. 8, 40 minims.

Developer—Water, 1 fluid ounce.
Alcohol, at 95 per cent., ½ fluid ounce.
Gallic acid, saturation.
Acetic acid, No. 8, 5 minims.

Before using this solution, add a few drops of a 20 grain nitrate of silver solution, and 2 or 3 minims of

Water, 1 fluid ounce.
Acetate of lead, 25 grains.

Solution of Glycyrrhizine—To make, boil for several hours, 1 pound of liquorice roots in 25 fluid ounces of serum of milk; filter and evaporate the solution to 10 fluid ounces. It would, without doubt, be better to prepare pure glycyrrhizine, but the above solution answers well the purpose.

From the Photographic Journal.

ON OLD SILVER BATHS.

BY F. HARDWICH.

Sir:—The plan which Mr. Eliot proposes for removing the iodide of silver from old nitrate baths, so as to render them available in the printing process, appears to be one of theoretical as well as practical interest. I have given it a careful trial, and with very good results, although I do not find that the citric acid alone is sufficient in all cases to throw down the precipitate. The presence or absence of acetate may perhaps make a difference; but if the liquid remains clear after adding citric acid, the whole of the iodide will go down in combination with citrate of silver on neutralizing with ammonia.

Mr. Eliot is evidently a practical chemist, and therefore it will be better to leave the matter in his hands; but perhaps I may be allowed to suggest that he should pursue the subject, and prepare, if possible, a definite compound of iodide of silver with citrate of silver. That such a compound may be formed I cannot for one instant doubt, as also others of a corresponding nature, such as iodide of silver with albuminate of silver, iodide of silver with glycyrrhizinate of silver, &c. These matters are important in establishing the theory of the dry collodion processes, which, as they become better understood, will, I think, be seen to depend very much upon affinities existing between the sensitive iodide and organic bodies coagulated by nitrate of silver. Mr. Eliot has certainly every encouragement to proceed in the investigation.

EDITORIAL MISCELLANY.

——We take great pleasure in announcing the fact that at last we have an American Photographic Society.

At the first meeting, although held at an inconvenient place, and on one of the most inclement nights of the season, there was a good attendance. The greatest interest pervaded the whole proceedings; our report is but a faint shadow of what was really done. A useful and permanent society is now beyond all question.

We shall take great pains in future to procure very full and accurate reports of its operation.

The next meeting will probably be held at the Cooper Institute.

Further information concerning the society may be procured from the Chairman, A. W. Whipple, Esq., 63 Wall Street, H. H. Snelling, 93 Duane Street, or the Editor of this Journal.

——At a late meeting of the London Photographic Society, Mr. Pouncy delivered himself of a paper on Carbon Printing, which occupies five pages of the Society's Journal.

Hear him: "This has happened with all discoveries. They have been the more warmly opposed the more decidedly the truth was destined to be rendered apparent; and I cannot expect the carbon process to be exempt from the same ordeal." Pouncy does not invoke *by name* the illustrious shades of Gallileo, Harvey and Jenner.

The paper closes as follows: "Therefore operators can be supplied either from myself or any of my agents, with all that is requisite. I believe operators will experience most difficulty in obtaining the carbon suitable; therefore I have prepared a quantity ready for use, in bottles, at 2s. 6d. each." !!!

——Since our former record, subscriptions have been received from the following:

W. E. S., N. Y.; S. A. G., Conn.; J. T., N. Y.; C. R. E., Ky.; J. H. F., N. Y.; M. G., Pa.; S. D. M., O.; P. C. D., N. Y.; W. N., N. Y.; M. M. F., S. C.; G. F. G., Tenn.; E. W. K., N. Y.; H. D., O.; H. & V., N. Y.; A. C. M., Ala.; C. H. B., Miss.; J. W. S., S. C.; L. L. C., Ia; E. B. W., O.; I. B., N. Y.; J. H. H., Ga.; C. H. M., R. I.; H. M., Ill.; H. F. Y., N. J.; W. D., O.; H. M., N. Y.; J. I., N. Y.; J. A. S., C. W.; E. E., S. C.; O. T., Ind.; J. W., O.; J. P. S., Mass.; L. C. E., N. Y.; S. L., N. Y.; J. H., Pa.; W. L. W., N. H.; G. M. E., Mo.; G. M. S., Me.; G. L. W., Ill.; D. W. B., O.; J. T. G., Ga.; M. J. R., O.; J. W. W., Ill.; N. B., Me.; B. & T., Ind.; D. M. K., Mass.; J. B. T., R. I.; J. B., N. Y.; J. W. C., Pa.; H. W. C., Mass.; J. C. L., N. Y.; D. H. D., Ill.; R. S., Vt.; S. G. R., Va.; N. S., N. Y.; S. R. O., Del.; G. V., Fla.; W. K., F. Y.

THE AMERICAN
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[NEW SERIES.]

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

I shall ever look on our visit to Hitchen with much pleasure—it remains a bright spot in memory, and has occasionally lighted up the dreary path of disappointment. Along the dark vista of trouble, occasional thoughts of pleasant moments, epochs of happiness, halting places of care, like lamps, illuminate the darkness and gloom, lights set at the uncertain intervals of experience—All have their dreary paths, some with but few lights, just enough to render "darkness visible"; others, so closely have them set together, that they make a gala of their illumination. Yet, a vista of trouble is the path of all, lucky are they who have a supply of lamps, let them keep a supply of fuel also.

A branch of the rail-road brought us to Hitchen in the dark of the evening. A coach brought us to our Inn, where we were soon installed in a snug parlor in the right wing of the house, our bed room above; it did not take long to find out we were going to be very snug, much snugger. as far as our domestic comforts were concerned, than we had been, for each touch of the bell was just as likely to call forth two attendants as one. Clean and neat, the arrangements of the Red Lion were the ideal of country comfort; a pleasant reminisence to commence with. Now it is an excellent thing to be on good terms with those whom circumstances place you in contact, especially in a country town, every fixed inhabitant must have some influence or disparagement, for his sojourner. It is very important for the travelling artist to know who is his landlord. In the morning I took possession of my operating room, a large one with a bow window on the ground floor, with an excellent stock of books, and well furnished. A room over head served for developing, so stretching my yellow curtain in an angle of the room, and making my trunk a bench, I had a DARK room with plenty of LIGHT in, and was ready and eager for the fray. Baldock is situated on the "great north road," so famous in the coaching days of England, when a journey to York was an event: an event indeed, would it be to see one of those famous coaches. The great north road is deserted; droves of cattle sometimes traverse it, private carriages occasionally journey over it, a stray wagon may perchance be seen on its surface, but though still well kept, its glories are in the memory of the past.

The road in passing through Baldock is so wide that the tallest houses do not cast their shadows across even at the setting of the sun. A double row of houses might be built in its centre, and yet leave an excellent roadway on each side. What Yankee would tolerate such a waste of space? Just put a batch of live ones in, as village officials, and they would soon plan it off into building lots, and run the village in debt in making its fortune.

My kind landlord strongly advised a visit to the Rector, who was popular, and influential as a matter of course, and though I disliked the idea, a visit to his church on Sunday confirmed the judicious advice of "mine host." The Rector I found a kind and withal jovial old gentleman, who promised a speedy sitting for himself, and good success for myself, little did I think at the time, that that merry head contained steadiness of purpose to plod over one of the most difficult literary tasks of the age.. Yet so it was, and no corroding lines of care were the results of the labour; a young old man he seemed. Punctual to promise came the good rector, and soon returned, with an excellent and characteristic likeness of himself, on his self-imposed task of showing it about as a specimen of my skill. The results of the rector's friendly interposition, combined with the knowledge of our visit to the adjacent town, were soon visible in the visibility of townsfolks intent on facial presentiments. One of our early sitters was Mr. Veser, the leading lawyer of the Town, and as great a punster as the rector, and lively tonguey encounters they often had in our "gallery." Mr. Veser and his lady, as much in a spirit of friendship as from desire, managed to have quite an assortment of pictures, standing and sitting, together and separate, on horseback and by the side of their horses, No sky was bluer than the eyes of both, much to the detriment of their otherwise pleasant features, so far as pictures were concrned. "Blink as often as nature suggests," was my frequent injunction. One day Mr. Veser resolved to have a pair of perfect eyes, and blinked most vigorously, the result was a blind man, the lids had remained over the eyes the most part of the sitting, and a precious good laugh the rector and all of us had at him. The lively rector having found a new duty, the welfare of the strangers, used to visit us two or three times a day. Baldock was blessed with a philanthropist of a very singular turn. An old lady had a large stock of furniture and linen which she lent to poor people on occasions. A mode of charity singularly appropos and convenient. The old lady's popularity was of much service to us, as her portrait was much in demand, and was furnished bountifully at her own expense. Our time was occasionally enlivened by visits from our warm friends from Hitchen, who would often take an afternoon ride on horseback. By the way, how is it that English ladies indulge so much more in that graceful and vigorous exercise than almost any other ladies? Walking also, they practice in a manner that would cause some of our delicates to open their eyes wide with wonderment. He would be his country's benefactor who would preach a crusade against the non- exercise of American ladies. He would improve the stamina of American women's sons and daughters, who could induce those who have means to indulge in Horse riding, and all to do much walking; debilitated mothers give deteriorated children; let us beware that the want of out door exercise does not degenerate into positive inability. One day a carriage drove up, and who should come out but the old nervous lady from Hitchen, in pursuit of more pictures. A journey I was assured she had not taken for years, but the desire of her friends to have her picture, induced her to undertake it.

Quite a rivalry was established between the Lion and the Horse. Finding we were successful, the Horse was inclined to kick against our host, though indifferent to having us in his house. But success makes all the difference, and hence the jealousy of the Horse at the Lion attracting all the fashionables. We set the fashion of daguerreotype-portraits; they were not much known until our entre. Business being prosperous, Mrs. Skylight thought she would like to take a ride, as not being well, it would do her good; agreed. Soon the gig was brought to the door, and off we drove. It is a very excellent thing to have a good turnout; a handsome horse that can go; a vehicle not to be ashamed of; but it is quite necessary the horse should be equal to his appearance, and worthy the carriage. But our horse was a deceitful horse; he may have been very obedient to one thoroughly acquainted with his propensities; perfectly under control, his owner said he was, my experience was different. He was a regular shier, had a will of his own, and was quite willing to test it against mine. for the first thing I observed in his ways, was an effort to back us on a pile of stones. By Bacchus, thinks I, but you don't though; then he took a notion to try how exactly he could mark a circle with his feet, making the wheels a pivot; we quite disagreed on the utility of the practice, and the nag gracefully yielding to the necessity of a straight movement, took a sudden start, until he came to a descent in the road, which he determinedly resolved not to go down, (I afterwards learned he had had a fall going down hill); he was quite willing to turn around and go up again, but he'd be blowed if he'd go down, and certainly he nearly got blowed with his exertions; doubtless a good lashing would have proved an argument adverse to Monsieur Cheval. But potent. But what was to be done? It would all be very well with another gentleman, but a lady, and not well at that, was another matter. A lashing might be productive of a break in of the dashing board. "I am sure he will overturn us, do get out and lead him." No other remedy. So Photo. leads the horse with one hand and his wife with the other, but the cunning rascal, he would turn around occasionally with a neigh which seemed to say, "you might try all day, but here I do stay. I would not go down hill, though I went to the town ill, with the lashes you gave till I could not well stand still. I could see a twinkle in the rogue's eye as of laughing, until I felt inclined to get in the gig again, and take the fire out of him. Leading him up to a roadside inn, I gave him in charge of a man who brought him home safely, where the folks laughed at the adventure, and I at the horse.

The good rector paid us daily visits, sometimes two or three times a day; did he perchance miss a day, we thought he must be sick. Says he one day, "Mrs Skylight, how is it your husband is a lazy man?" "A lazy man, sir," says the good lady bristling up, slightly amazed, but more puzzled. "Why certainly, does he not like a *light* place? he! he!! ha! ha!!" not so bad Mr. Rector. "Business must be very good with you," says he one day. "Yes, I am tolerably successful at present, but what suggests the remark?" "Why, you have taken a partner." "A partner," says Mrs. B., remembering the recent entanglement. "'Pon my word," says I, "I am oblivious of the fact." "Why, when I was here yesterday, you could not get a picture—you know you are allied to the sun; 'Skylight and Sun,' is your firm." Better, Mr. Rector, for without the sun what would we poor photo's. do? may the partnership exist forever.

PARALLELS.

BY H. GARBANATI.

In ages gone by, people used to drink out of shells, hollowed stones and wood, or hard baked earthenware. By and by, some observing fellow, by accident found out that certain sands made very hot, and mixed with certain alkalies, when cool, formed a solid and transparant mass. Hence arose the fashion of making beautiful glass drinking vessels, ultimately to come in common use. If patent laws had prevailed in those days, would each man upon the introduction of a new beverage. have been entitled to a patent for putting it in a glass vessel? A patent for putting wine in a wine glass, and beer in a tumbler! what a bother it would have been.

Upon the introduction of tea, contrivances were in use for drawing it in, in accordance with materials used for making vessels suitable for holding boiling liquids in. Some knowing fellow invented an amalgum, since called britania metal. It became exceedingly popular, since with careful cleaning and polishing, it is a tolerable rival to silver—in appearance—for a poor man's use Manufacturers soon found out it was a first rite article for making tea pots of. If any patent were grantable, would it have been to the inventor of the britania metal and fashioner of the tea pot, or to the man who first put tea in it?

When collodion pictures were a new thing, the puzzle was to get a material best adapted for holding the bath solution. Seely and Garbanati after much persuasion, induced a hard rubbber company to make baths, pans &c., they furnished sizes, gave designs, regulated proportions; their object was palpably for photographic purposes If a man thought proper to put the bath solution in the developing dish, and the developer in the bath, or if he thought proper, to make a soup plate out of the dish, and a drinking vessel out of the bath, ought he to have a patent if there were any granted, or they, who adapted the material to photographic uses?

If any one invents a new material, he is certainly entitled to a patent. He may even have a right to one for turning an old material to a new use, provided there is adaptability about it; that is, it is made in shape to suit the especial purpose; but certainly no one is entitled to a patent for putting something in the material or article invented for receiving the something.

What differences then, is there between the above cases, and the use of bromide in the material collodion. Yet the man who claims to be the first to have used one salt of bromine in collodion, especially prepared (but not by him) for the reception of such excital, claims also a patent for the use of all salts of bromine, to the tune of one hundred and fifty dollars per year for one gallery, (an advance you see,) making a return if he could but get it, of nearly half a million dollars a year.

PHOTOGRAPHY AND PRINTERS' INK—PHOTO-WOOD-ENGRAVING.

BY THE EDITOR.

Photography has been thought of since its beginning, as a subsidiary or substitute for the old-fashioned way of printing pictures. How can photographs be made in printers' ink—how can photographs be printed from the typographic press? These have been the great problems of the last twenty years. Joseph Dixon, of Jersey City, in 1840, gave the first practical but partial solution. His original process is still the basis of all successful photo-lithography—very little has been added to his first instructions.

At a later day, Mr. Fox Talbot, of England, by a modification of Mr. Dixon's process, Nieper de St. Victor and others invented photo-metal-engraving, for the copper-plate press.

The very best results of these processes thus far still leave much to be desired. Photo lithography in theory is the most reasonable, and in practice is found most useful; yet its utility is quite limited. (I mean utility in the industrial sense.)

The printer's ink pictures of most consequence to the people, are wood cuts. The process which could chemically prepare a block to give a perfect photograph impression in a typographic press, has seemed to be the grand ultimatum and climax of photographic art; for example, as if we knew how to prepare a block, so that it should come out of the camera engraved and ready to print from. But such a process is beyond the present resources of science; I do not believe in any chemical etching or building up; inventors have wasted their ingenuity on impossible schemes.

Yet I consider the practical problem regarding wood engraving as solved, and that the whole merit of the invention belongs to one of our countrymen.

I am assured by engravers that they minutely and accurately follow the drawing given them; that they can engrave their wood so that in printing it will give the most faithful copy of the drawing. Now it seems only necessary to get a plain photographic impression on the wood, and the engraver can enable us to reproduce it. At first sight this appears easy enough to do, yet all attempts till recently have been more or less failures. If the sensitve chemicals are applied to the wood directly, the picture will be marred by stains, and the wood being of a color somewhat dark, the impression will not be distinct and bold as on paper. Moreover, the chemicals penetrate the wood and very seriously injure it. If any film of the nature of collodion be used, it tears up under the tool.

The method heretofore most practised in New York, consists in blackening the block and then producing an ambrotype on it. At the present time this process is in great disfavor with engravers· If anything is saved in drawing, it is lost by the increased trouble in engraving.

Mr. Charles B. Boyle, of Albany, has invented a process which meets every requirement. He takes a wood block as commonly prepared for engravers, with the usual white ground, and prints a photographic impression on it with about the same ease and perfection as is done on paper, and the block is engraved with as little difficulty as if the impression were a pencil drawing.

The outlines of Mr. Boyle's process are given in his patent claim which we extract from the "Scientific American:"

PHOTOGRAPHY ON WOOD.—Charles B. Boyle of Albany, N. Y. Patented in England, January 7, 1859: I claim first, the described or substantially equivalent method of applying albuminous matter, and afterwards coagulating it by heat, so as to form an insoluble base within the pores of the wood, for the purpose set forth.

Second, Taking photographic pictures upon wood, the pores of which have been filled with gelatine or its equivalent, and subsequently removing the gelatine from the block without injury to the picture by the application of a warm solvent.

Mr. Boyle has had the kindness to demonstrate his process before me, and allowed me to practice it myself. I find it simple and certain. I believe it will satisfy engravers equally as well as photographers. It meets every objection to any other process with which I am acquainted. The impressions (being made on a white ground,) have all the brilliancy and strength of a paper photograph, while the wood block is in as good condition for engraving as one prepared with a pencil drawing; no film to tear up—no silver in the wood to blacken by exposure to light. The impressions may be freely washed with water, and when dry may be retouched with ink or the pencil; or they may be removed, and the block re-prepared for another in a few minutes.

The only doubt of the greatest utility of Mr. Boyle's process rests upon the skill of the engravers:—can they reproduce the accuracy and truthfulness of the photographic drawing? If yes, I cannot but consider that the *ne plus ultra* of photo-ink printing as nearly reached. Certainly, now, wood engravers do produce fine work—they are not very far behind the metal engravers. It is certain, also, that wood engravers produce more perfect pictures than I have seen or ever expect to see from photo-lithography, or photo-etching. At all events, the value of this process is great, and will immediately be put in practice for many purposes. In my opinion, those who need it most are the proprietors of illustrated papers, which publish portraits and views of scenery. Hitherto, thier pictures fail in truthfulness; their portraits are as often carricatures as likenesses. In future, a truthful likeness will be cheaper than any other; light can draw more accurate and quicker than any human hand.

In conclusion, I would say that I owe an apology, perhaps, to some of my readers for not giving Mr. Boyle's process in detail. The fact that such publication would be prejudicial to the inventor's interest, I trust is sufficient explanation. It is a process of that nature which is tempting to those who are ever ready to get possession of, and appropriate the property of another.

CHEMISTRY FOR PHOTOGRAPHERS.

(No. 1.)

BY THE EDITOR.

Photography is a chemical art; the scientific photographer will be a chemist, at least to the limit of his business. Scientific principles ought to be studied;—making pictures is only mechanical drudgery, when we don't think and engage our minds in the work. Slaves do as they are bid, getting better only like a fiddle by use. Free men have a reason, or ought to, for what they do; they have curiosity, and always ask: why?

Yet, at the present time, I believe photographic manipulations are rather in advance of the photographic science. It has not been in the way of practical photographers to learn chemistry, however well they might appreciate the value of such knowledge. Moreover treatises on chemistry contain too much matter irrelevant to their wants—and the books, like Hardwich's for example, professedly teaching photographic chemistry, are too learned, or too theoretical in their style for men who have not the habits of study.

I am going to write out the principles of chemistry, keeping always in view their application to photography, constantly illustrating by materials and facts known to photographers, and doing all in a way so different from others that I shall have no doubt that some who are unsatisfied with the common treatises, or begin the study for the first time, will learn something of which otherwise they might remain in ignorance. Also, for the young men in my laboratory I shall make this a text book —saving labor for myself and them.

So far prefatory.

WHAT IS CHEMISTRY?

If we want to know what a substance is made of or how to make it, we go to the chemist. If we want to know the nature and properties of a substance, the chemist tells us. It is the chemist who tells the doubting court and jury, if the suspicious stain is of blood or no,—if it is really poison he has found in the dead body. The chemist takes raw materials as he finds them in nature, and makes substances quite curious— being at first worthless, he makes new things of great value. From the sea water he extracts iodine and bromine; from ashes and stones he gets potash and cadmium. and combining these, by his skill he furnishes the photographers with iodides and bromides of potassium and cadmium. Chemistry is the science of the chemist. CHEMISTRY TREATS OF THE COMPOSITION AND PROPERTIES OF BODIES.*

The composition of a body is ascertained either by separating it into its constituent parts, or by uniting by trials, the supposed constituents till the substance is produced. The first process is called ANALYSIS, the last, SYNTHESIS.

The burning wood in a stove is a kind of analytical process. Ashes remain behind; soot smoke and steam pass up the chimney. And if we take either of these products of the wood, we may separate them into others. But it is evident the analysis must end, for we shall soon find products which we cannot decompose; such are ELEMENTS OR SIMPLE SUBSTANCES. An element then, is a body which has not been separated into different kinds of matter. For example, iodine is an element. It is always the same; however you torture it, you only get iodine out of it. Also gold, bromine, silver, chlorine, &c., are elements. Chemists have agreed that there are in all about sixty elements, out of which all the matter of the globe is composed. Some of these elements are very scarce; I do not know that any man has seen all of them. In fact it is only a dozen or two that people care anything about; we might not miss the rest if they were taken away. Some of the elements are found everywhere and in almost everything about us. For example, eight ninths of the water we drink, and four fifths of the air we breathe. is oxygen. Take oxygen out of the world and what would become of us?

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* "Nature is composed of certain elementary bodies or elements. The knowledge of these bodies, of their mutual combinations, of the forces by which these combinations are brought about, and of the laws in accordance with which these forces act, constitutes Chemistry."—*Berzelius.*

Very few of the elements are found in nature in their simple state; the chemist uses his art to separate them; we are indebted to him for iron, copper, lead, sulphur &c., which he extracts from what other people look on as only stones or dirt; and the chemist combining the elements in various ways offers us useful substances, which nature unaided, would not have produced. Nature never made gun cotton, ether, or pyrogallic acid.

If the scientific chemist had all the elements before him, by combining them he might make any substance * he pleased. Let him know what elements are in a body he knows how to reproduce it.

Therefore, it seems necessary that in the start I ought to teach what are the elements by name. But before giving a table of them, I wish to have some other things understood, which I shall display with them, so that the whole will be a valuable page for reference.

In the first place, chemists sometimes use a kind of short hand way of writing the elements, and expressing some facts about them. For example, instead of writing the word oxygen, they use the initial letter, O; instead of hydrogen they write H, &c. These letters used instead of the name are called SYMBOLS, and are generally the first letter of the name. There are about sixty elements, and as we have but twenty-five letters, we are obliged to add a letter to one of two or more symbols which would have the same letter. Thus the symbols of carbon, copper, and chlorine, are C., Cu., and Cl. With the name of each element in the table, will be found its symbol.

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* Except organic.

Pure water wherever we find it, is always the same thing. Can we doubt then, that it is always composed of the same elements and the same proportion of them? Can we have any such doubt about pure common salt? Now. it has been shown that water is composed of the elements Hydrogen and oxygen, and in the proportion of one part by weight of hydrogen to eight parts of oxygen. Salt, or as the chemists term it, chloride of sodium, is composed of the elements chlorine and sodium, in the proportion of 35 to 23. Thus it appears that the elements combine with each other in certain definite proportions. The figures which express these proportions are called EQUIVALANTS. Thus the equivalant of oxygen is 8, of hydrogen 1. In nine pounds of water there are 8 pounds of oxygen and 1 pound of hydrogen. I shall have much in future to say about equivalants: I have introduced the matter here only that they may be more conveniently introduced in the table. The equivalant of each element is given with its name.

ON THE USES AND ABUSES OF PHOTOGRAPHY.

[In the former part of the paper, Mr. Hains alluded briefly to the most important USES of Photography, with which our readers are familiar, and then proceeded to the second part of his subject viz, the ABUSES of Photography.—ED. P. N.]

Let us commence from the first and let us suppose a person fired with enthusiasm for the art. He takes up a newspaper where he sees advertised "A complete set of Apparatus, with Chemicals, complete for 30*s*."—He rushes to the shop of the advertiser, purchases his "apparatus," never stops to think if he knows anything about the process, and stumbles over every part of it until perchance he gives it up in despair and abuses the art to all his friends, just because he himself has been un successful.

Think you that the painter or the sculptor succeeded in the first painting or model they attempted? No! They required to know the nature of the materials to be used, and the work to be done, and even then, knowing all this, they wanted practice before they could accomplish it. Not so the photographer, as he immediately calls himself, (for in many minds the mere possession of the apparatus constitutes the man.) He rushes headlong into the art, without knowing the nature of that light which is the chief essential for his work!—without enquiring the properties of those chemicals which are to assist that work, and in fact without having the knowledge of the process, or anything belonging to it, thinking forsooth, that as "Light" was to be the agent by which the picture was to be taken, he need know nothing about it; and what is the consequence? He makes a miserable attempt and fails, and worse than all, he attributes what his own folly has caused, to the failing of our glorious art.

Again, let us suppose that our young tyro has purchased a shilling pamphlet on "Photography made Easy," or a book with any other such title, and has at length mastered its contents, he can perhaps take an image fairly in the camera. He at once considers himself an artist, but he is not so. A man may be a photographer indeed, and may be able to take likenesses, but it requires much more than this to become that great essential to the true practice of photography, an Artist. He thinks, so long as he takes pictures, as he calls them, it is enough and that nothing more is required. If he is taking a portrait, he cares not for the posture of the sitter, which way the light falls, or the color or description of the background; or if he has progressed so far as to have a background painted in imitation of a landscape, he thinks nothing can be better. But, as you all know, the beauty of a portrait is not only in the background or the distinctness of the figure, but it consists in having that depth of shadow and roundness of the features so seldom discerned in the generality of the portraits taken in the present day, and which can only be obtained by a proper management of the light. Thus then I consider that a want of proper knowledge of the art, a want of intimacy with the necessary chemicals to be used, and a want of the true artistic spirit necessary to make a good photographer, are some of the chief abuses to which photography is exposed.

Another great abuse is the frightful exhibition which is now to be seen in almost every street and almost every town in England, to which notice is requested by a voice which announces that you can have a "correct likeness and frame complete for 6*d.*" Indeed I heard the other day of one spirited individual who, it seems is determined to cut all the others out, and who has reduced his price to "the low charge of 2*d.*" Now you will perhaps say that the epithet "frightful" is too strong; but all I ask of you is to honor one of the said exhibitions with your patronage, and I feel sure that you will agree with me that the pictures shewn there are really frightful and it is also frightful to see how low one of the noblest arts can be brought by a parcel of unscientific men, who perhaps have left their shop-board, or their bake house, to become what they are pleased to denominate on their address cards, a "Photographic Artist." Many of these so-called "artists" again, not content wito simply perpetrating such vile things as their portraits usually are, must needs make ugliness still uglier by daubing them with paint, for which they will inform you they "charge 6*d* extra." A pity it is that such men would not keep to their shop-bords and bakehouses, and leave photography, of which they know nothing, to stick to their original trades, in the pursuit of which they would doubtless make respectable members of society.

Another abuse of photography consists in the indecent and disgusting pictures which are exhibited in many of the windows in London, and indeed in some few of our own town. I cannot, I think, do better than take a few extracts from an article which appeared a short time ago in the "Morning Post," on this subject. After calling on the authorities, on behalf of public decency, the writer goes on to say, that although he is not squeamish, and is not shocked at seeing a Cupid without pantaloons, or very fastidious about the pose of a Venus, yet to see a too life-like representation of courtizanship in all its faithful hideousness to paper, this he says, is one of the things he cannot look upon without disgust. "Unlike ordinary pictures," says he, "where models supply the mere ideals, the photographic slides are very models; every one of those startling poses has its representative in nature; every trait of the original is theae."

I consider this then a serious abuse of our art, and one that we should endeavor to put down as far as possible.

One dreadful abuse of photography is the way in which many in this town, an I am afraid also in many others, violate the Sabbath through its means. I know several places within a mile from the spot where we are met, where, with the most bold-faced impudence, it is announced that "portraits are taken on Sundays from 9 in the morning till dusk;" now a more fearful desecration of the Sabbath than this one can hardly be imagined. For a man in Christian land to thus use God's first creation, without which all else would have been of none effect, for the very purpose of breaking one of that God's commandments, is indeed dreadful to contemplate; it is indeed a thing which in my opinion ought not to be allowed.

I might mention many other abuses to which the art of photography is subject, but I think it is quite unnecessary for me to do so to-night, so I will, with your permission, pass on to my last point, "The duties of every practical photographer in the present crisis."

The crisis of photography is at hand when it will depend on you what shall be its end. It is easy to say we know and appreciate its uses and intend to cherish and increase them, but this is not all that is necessary for the safety and welfare of the art; you must also lend your aid for the purpose of causing, as far as possible, the discontinuance of those abuses which are so fatal to its well-being. This can easily be done; the first step has, I am happy to say, been taken in this town, and also in many others in England during the last two years. The formation of this society I consider the first step towards the safety and progress of photography in this town.

Once make the eye of man appreciate the beautiful, and he will soon loath the sight of the ugly. The exhibition last year was I think very likely to benefit the art, not only in this neighborhood, but also elsewhere, for till that exhibition took place, the idea on the minds of most people seemed to be that photography was only intended for portraits, and not at all for anything else. But the formation of a society, or the holding of an exhibition, is not all that is necessary to be done. These are but links in the long chain of duties which apply to every member of this or any other society. Every member I say has his duties to perform, and unless he performs them, he will have himself to blame if the noble art of photography should sink into disgrace, and ultimately to ruin. Let me then enumerate a few of the duties which I think binding on all of us, if we really with heart and soul love our profession; and first let me press on you the necessity of a good attendance at our meetings. This is necessary, not only for the welfare of the society, but of the art itself; for what a handle does it give to the scoffers at the science, if they can say that if out of a body of men who profess to love the art, we cannot get a sufficient number to attend, how can it be expected that others would interest themselves in it. Let me then earnestly impress upon you the necessity of a better attendance at our monthly meetings. Again, let me also beg each of you to increase, as far as possible, the number of our members, for let it be remembered that "in numbers is strength."

Another duty, which I conceive to be equally binding on all, ir the duty of all contributing their share towards the papers which are read at our meetings. Let not one among us refrain from this on account of supposed unfitness; each one must have something to say, however little that something may be; each has had his own private experience, and something interesting to all must arise from some of his successes or some of his failures. Let us then endeavor, one and all, to promote the welfare of the society, and help on the progress of that art, for the good of which the society was formed. Let no one hang back, but each come boldly forward, and we shall not only do ourselves good, but also promote the prosperity of that for which we all profess to have a love.

However short the papers or the remarks may be, there must always be something in them to both interest and to improve, and as by exciting interest and awarding improvement among our members, will do our society good; so the well-doing of our society will largely benefit photography, by causing the formation of other societies, by infusing into others, by means of our Journal, the interest and knowledge we have ourselves obtained, and by bringing more under notice such things as may be useful and beneficial to the lovers of the art.

One more duty I will mention, and that is that of all contributing to the album of our society. I am aware that this was mentioned in our last annual report, but not so fully but that I think I may venture to say a few more words respecting it. The album, as I suppose you are aware, was provided by the society, as you will learn by your rules, for the "reception of photographs." Now by filling the pages of this book, I conceive that we should be doing one of the best things towards the promotion of photography that is possible; for instance, you press a friend to become a member of your society and he may tell you that he is so disgusted with the vile productions of the present day that he is determined to have nothing to do with it; you have nothing to deny in all this; you are aware, painfully aware, that many of the productions of the present day are vile; but if you have an album that is full of pictures that are not vile, but good perfect, and above all, artistic, then indeed may you boast, and little can be said against the society, whose members can produce such a sample as this, or against the art by which they were produced. Bear in mind your album may be obtained for your drawing-room table, on application for the same, and how proud would, or ought to be, that man, who with his fingers upon a handsomely bound book full of views and pictures, worthy indeed to be admired, could say to his friends, "See what photography can do and what our society has done by its aid." I must now leave the subject in your hands, as I trust I may safely do, hoping that each member present will, from this time, do all in his power to promote the knowledge of this all-engrossing art, and that the Birmingham photographic society will be, as it ought to be, one of the first in the kingdom to aid in the object for which it was framed, namely, "The cultivation and promotion of photography in its various applications to science and art and the extension of its sphere of usefulness."

EDITORIAL MISCELLANY.

———A publication of considerable notoriety, on account of Hallotype collodion gilding, &c., has published the redeveloping process of Mr. Wendell given in our last, as a communication of an original discovery by one Thompson of Albany. If we were not aware of the facts, that Thompson received all his information of the process from Mr. Wendell, and that Thompson is a relative of the publisher, we should be well enough prepared to suspect them. In truth this scurvy trick is not the first or the tenth of the same sort, which has emanated from the editor or the contributors to the publication in question. How many, for example, discovered Howell's transfer process? What a wonderful thing one Gage, made of the matter of yellow paper for the dark room, and foggy nitrate bath, &c., &c. Indeed, strike out of that journal all that was pilfered from these pages, or otherwise obtained surreptitiously, and what *original* motter would remain?

———At the point of going to press, we have received the particulars of a great photographic exhibition to be held at the crystal palace in Paris, on the 15th, April, next. American photographers are invited to contribute. Unfortunately the notice is now too late. We were aware that an exhibition was to be held, but were not sure till the present time that American contributions were expected or desired.

———Carbon printing is still the prominent subject treated in our foreign exchanges,—also M.* Poitevin's claims are still ignored. Why?

Mr. Pouncy has modified his process as follows,—we quote from "*Notes.*"

"Take 1 oz. of gum arabic solution, about the thickness of copal varnish: add to it about 3 oz's. of filtered rain water, immerse the paper; hang it up by one corner to dry, as you would after floating upon silver; when perfedtly dry proceed as I have before directed. With ten minutes exposure in sunlight I obtain good pictures, fully developed after soaking in water for two hours."

Mr. H. Anthony of this city among several variations of the carbon process suggests as follows;—First a mixture of gum arabic, sugar, and bi-chromate, spread on paper; upon this coating when dry, evenly dust or rub carbon powder; upon the black surface spread the first mixture again. Mr. Anthony has had good success and understands the subject thoroughly.

———The next meeting of the photographic society, will be held at the Cooper Institute; on Saturday, March 26th.

THE AMERICAN
Journal of Photography.
[NEW SERIES.]

Vol. 1.] APRIL 1, 1859. [No. 21.

RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

The landlord of the Red Lion was decidedly a " tip-top " fellow, and by no means illustrated the common charge against English inn keepers, of overcharging: there may possibly be something in the nature of inn keeping, to make a man greedy and exacting, but certainly I have not had much experience in proof, though in many instances I have thought a less charge would have been more reasonable. But mine host was quite an exception to the fraternity of inn keepers; little kindnesses and extras he might have readily put in the bill, were taken no account of. His wife and those about were equally kind people. In my experience of a travelling daguerreotypist, I again came to the conclusion of a necessity of change, not because business had failed, but was dull. My landlord prognostigated much more success, but did not urge it, possibly because he thought I might suppose he was consulting his own interest. But finding I was bent on trying a new place, he recommended "Stevenage," and offered to drive me there. I gladly accepted his offer, we set off on the old, but now almost deserted coaching road, on our way to Stevenage, towards London. The nag of whirligig fancy, was in the shafts, but under the guidance of one who knew his fancy, and well paid him for the trouble he took to amuse us, but somehow or other, not liking his pay, he struck for less wages, and soon gave up his entertainment, through the excessive pay in whip cord he received, and only did his work. The few miles between Baldock and Stevenage, is very picturesque, that part of Hertfordshire being chalky and much broken. We drove through a long straggling village, to an old fashioned tavern, whose principal entrance was up the gateway that led to the stables. The bar and parlor looking more like a kitchen, while its enormous chimney place, and everything about, showed it was a coaching house of the past age. Its diminutive windows put it out of the reach of my purpose. A tramp through the village with "mine host," who was well acquainted there, met with no better success. I was sorry, as the place seemed quite portentous of success for picture taking.

Stevenage is, or rather was, quite famous for carriage building, and had been a mart for vehicles, but with the advent of rail-roads, most of its trade had departed, and no other branch had taken its place. It is very ancient, and the few I inquired of knew nothing of its origin, so if I suggest it took its name from King Stephen, I shall only be doing what hundreds before me have done in arriving at a hap-hazard guess, for it was certainly named *after* King Stephen.

As Stevenage would not answer, my host proposed driving me over to Biggleswade, a large town in Bedfordshire, and a very short distance from Bedford, and as he offered at a very low price, I accepted, the more especially as he would not charge for the drive to Stevenage, nor for the memorable drive "up the hill and down again."

We looked in vain for quarters here also, though probably not thoroughly, when I was persuaded to engage apartments at an old fashioned inn, in what used to be the best part of the town, but unlucky for us, was of the "things that were."

Well, we were again to move. Oh ! the bother of packing —no little joke is this packing—getting a large quantity into a small space—selecting those things that will fit just so, iron glass, wood, all sorts of things, every kind of thing mixed up together. I had had a box made in Bedford, with a hole in a centre-board for each bottle, and packed trifling articles between, so that upon one occasion when a careless rail-road employee knocked off the front of the box, such a variety of things closely packed together quite astonished him, and the only thing broken was a glass funnel, so that it pays to pack well and carefully, though it does take a long time. But first before packing, must be "the last week,".but not with so much success, though it answered its purpose. The next business is the paying of the bill, which, not a common case by any means, surprised us by its moderation, not even the beer at dinner was charged extra, that at least I expected to pay for.

We really felt unwilling to leave Baldock, so comfortable had we been and so kindly treated. Mrs. Host presented Mrs. Skylight with a very beautiful piece of workwomanship as a testimony of her esteem, and quite sorry she seemed to part with us. So bidding good-bye, off we were again in a snug carriage our traps preceeding an hour in a donkey cart. The drive was not altogether pleasant, as the motion made Mrs. Skylight sick On the way, in the distance, we observed what appeared to be an obstruction in the road, but which proved to be our donkey cart, drawn by a very little donkey who seemed overshadowed by his load, crawling on at a snail's gallop, estimated at about one mile per hour, we appeared to pass at a steamlike speed at a trot, so that upon arriving at our destination, we had time to prepare for our long expected luggage.

I was not long in unpacking and again getting ready for a start. Each particular start was like beginning the world anew with all its cares and anxieties, its uncertainties and perplexities, no certainty of success, no guarantee of expenses, at most a living or a little more, how much better for those who can locate with a probability of even ordinary success, to grow up with the institutions and townspeople, so as to have a stake in the country; still for those who want to see the country, to travel and yet clear expenses, is a great treat for young men, and no occupation offers such an opportunity as the photographic profession. Were I a bachelor I would continue it for years.

THE NEW RE-DEVELOPER.

To the Editor of the American Journal of Photography.

In the No. of Humphrey's Journal for March 1st., I observe that S. J. Thompson of this city has published, over his signature and without giving credit in any direction, the process I published in your Journal of the same date. His letter is dated *December* 1, 1858. As we may seem to the readers of both these journals as rival claimants to the discovery of this new, and according to his own statement, excellent process, I wish to state a few facts in relation thereto.

I cannot state the precise date of my first trial of the dextrine, but it must have been about the middle of September last. I was in New York about the 13th of October, when I mentioned it to you and also to Mr. Gardner operator for Mr. Gurney. He tried it and showed a print to Mr. Gurney in my presence. They will both remember the fact, and I can prove the date from other evidence. At that time I affirm that Mr. Thompson knew nothing at all about it. I told several operators in this city and Troy, the process, and in some way he obtained it. In fact I made no effort to conceal it—Mr. Thompson himself knew that I intended to publish it. In a conversation he had with a friend of mine about the time his letter is purported to have been written, he made no claim to have discovered it. He said, however, it was no new thing, but that the same thing had been published in some book about three years ago. I afterwards asked him about it, and he said it was not the *same* but *dextrine in the bath.* Since his article was published, I asked him again for the book, and offered him enough to compensate for the trouble of looking it up, but the book has never been produced.

I only make these statements to show how good his claim is in the matter. He may say he does not claim the discovery, but any reader of the article would judge that he gave it as his own.

If it was ever published or used by any person before I used it, I am entirely ignorant of it. It was quite new with me, and I judged it of sufficient value to communicate to others. Whether it is they will judge.

One query. As Humphrey's Journal is not burdened with original articles, *why was this of Mr. Thompson laid over for three months?* Perhaps its editor can give us some light on the subject.

I would not have it understood that I give this as a formula for developement generally. It is useful mainly in making enlarged copies, and for children. In copying in sunlight it will be found, with a little practice, an excellent plan, to give a little more than the usual time in the camera, and put a little dextrine solution in the developer, thus saving the trouble of re-developement.

HARVEY WENDELL.

ALBANY, MARCH 18th., 1859.

A LETTER FROM LAPORTE.

MARCH 19th., 1859.

The secret is out, no mistake this time—the riddler has uncerimoniously cut the gordian knot, and I, Gossip, have been mistaken—erred in favor of humanity, that's the pity—for humanity, not for me. The owner and talented compiler of the M. B. B. journal, is not a philanthropist after all, he does not publish his inky sheets for the sole benefit of ignorant photographers, nor does he furnish them for the many purposes pieces of paper may be put to. gratis. I could bump my own head for my blunder, did I not happen to blunder on the right side. The whole tribe of crammers and process pedlars will question my authority, and some few—very few—photo's who could have sworn by me, now find me fallable, like common mortals. The owner, publisher, compiler and editor of the M. B. B. journal, has given notice that he wants pay, remorselessly demands it for all M. B. B. journals he has sent, solicited or unsolicited, for who knows how many years past. He publishes the law relative to publications, and calls the particular attention of those, and there are many, who decline to pay because they did not order it, to the clause saying 'tis a swindle to order and not pay. Did you not take it from the Post-Office? inquired the owner of the M. B. B. J. You have used it and ought to pay for it, and then he hints, you shall too. Well, this all requires some slight consideration; undoubtedly anybody engaging even the M. B. B. J., ought to pay for it, even though its proprietor, who says it must be paid for in advance, should lead them into the trap of several year's subscription, by not presenting the account, though if the rule is, it must be paid for in advance, an ordinary person would think that rule would be the limitation of subscription. Still Mr. M. B. B. J. make those pay 'who ordered it,' if the law will sustain you. But as regards the other, and by far the greater number, if my experience goes for anything, why should they pay because you thought proper to send your wrapping paper to any address you could find? Why should you put them to the expense of postage, they not knowing what the article was they were taking in at first, and why are they to be put to the trouble of returning or declining the grand re-publication? One man declares he supposed it was sent to him as a circular, a puff of the M. B. B., and if several were sent, how did he know but you wished to keep the puff before his eyes. Another states that he took it simply because it was addressed to him, he did not inquire the motive nor who sent it, nor did he rush to consult a lawyer on the subject, not supposing he was expected to pay for what was voluntarily sent, for some reason to suit the sender. Another asserts that most of the numbers were taken in by some one about the establishment, and wants to know why the devil—printer's devil of course—he was to bother about, or pay for it? Quite a number have told me they looked at a number and left the balance in the P. O. without comment.

Now Mr. Editor you publish a journal and ought to know; can any one who did not order the M. B. B. journal, be held responsible for its price per annum? is the law all on the side of you journalists? is it nothing in the eyes of the law?—has it eyes, and do they always see clear, that the party to whom a publication is addressed, should have the trouble and expense of receiving and returning said publication, should it turn out to be something he neither ordered nor wanted? Well, whatever your answer is, mine is, "Not by no manner of means whatsoever." Why display, and point to the law on swindling? is it suggestive of an attempt at swindling? if so, let each one as they will, answer by whom.

How gets on the so called bromine patent? have those heavy guns, those long toms, that heavy artillery of fact and argument, the American Journal of Photography, has brought to bear—oh! the hackneyed phrase—on it, or that announcement, so fatal to the chance of the timid going up to the captain's—Cutting's—office, and paying their fees, that attempted levy of one hundred and fifty dollars per year license, with the right to call for arrears of damages, save the mark! The twelve apostles have been too overreaching, too many cooks have spoiled the broth, their mess is scorched, and they have got into the mess. If their greatest enemy had advised, he could not have induced a more pig-swimming mode for making a fortune, for who won't fight for $150 per year and arrears, or $25 per ditto, according to means: no fear now but the profession will stick together and knock the banded monopolists into particular nothingness, for safety if not for patriotism; a scarce and unprofitable sentiment nowadays, I fear. Hit them again Mr. Editor; I almost wish some other grand scheme would develope, whilst I am in the savage humor.

Yours in Chemicals, Cameras, and Cases,

Gossip.

From the Photographic Journal.

GOLD TONING ON ALBUMENIZED PAPER.

Mr. Hardwich has communicated to the photographic society of London some observations on photographic printing, in which he deprecates, as unjust, the prevalent disposition to decry the methods of toning and fixing now in use. In skilful hands, doubtless, the methods in vogue are fully adequate to secure permanency, but the host of pictures "fading away" that meet us on every hand, prove too forcibly that some radical defect exists, if not in the formula at least in the manipulation. It is better to seek to improve the former than the latter; therefore Mr. Hardwich proposes an improved toning by *alkaline* chloride of gold. This mode of toning is adapted for any kind of sensitive paper, but its peculiar value is seen in the case of albumenized paper, which is sometimes difficult to color by the *sel d'or* process, and even in the ordinary fixing and toning bath of hyposulphite of soda and gold, does not attain to an agreeable tone, unless the bath be kept in a very active condition. Make a solution of chloride of gold, one grain to the ounce of water; take of this

Solution of chloride of gold - -	1 fluid drachm.
Sesquicarbonate of soda - - -	1 drachm.
Citric acid - - - - -	20 grains.
Water (pure) - - - - -	12 fluid ounces.

This solution will not keep when mixed, as it gradually undergoes a change, becoming colorless, and toning more slowly. It is not clearly understood what part the citric acid plays in this mixture; in a warm alkaline solution of chloride of gold it throws down an indigo blue deposit of metallic gold.

A strongly albumenized paper is to be preferred for this method, especially one that prints rather red, otherwise the gold is liable to yield too blue a color. A rich velvety appearance is promoted by using a sensitizing bath of full strength; sixty grains of silver to the ounce for a paper salted with a ten grain salting solution.

The prints may be kept for a few hours after removal from the printing frame, but it is best to tone them at once. Wash them in two or three changes of water until milkiness disappears; they may be left in the water until it is convenient to tone them, which is done as follows—

Mix the ingredients of the formula given above in an evaporating dish, and when effervescence ceases, place a spirit lamp beneath, and raise the temperature, with constant stirring, to about 120° F., which is indicated by the steam beginning to rise, and a bluish discoloration, due to commencing reduction, is seen. The lamp must now be removed, else much of the gold will be reduced, changing the color of the fluid to an inky black, after which it will be nearly useless. Filtering is unnecessary.

This warm liquid is poured into a flat dish, and the prints are put into it, two or three at a time. A little discoloration of the toning solution may be disregarded, since it is caused by a quantity of gold quite microscopic, and will not injure the whites of the proof. The first two or three may perhaps be toned in about five minutes; but as the liquid cools down, and the quantity of gold decreases, twenty minutes or longer may be allowed. The time, however, is greatly influenced by the quality of the paper; English papers strongly albumenized requiring a longer action.

If the prints are removed from the toning bath as soon as the blue color of the gold is seen, they will generally change in the fixing bath to a warm hue of brown; but when left for two or three minutes longer, the deeper tone acquired is permanent. The proofs are ready for fixing, when they cease to appear red by transmitted light. Over-printed proofs yield the blackest colors, because they may be kept in the gold a longer time without losing the half tones. It is not advisable to attempt to obtain pure white and black tones on proofs printed from feeble negatives, for unless there be a perceptible amount of bronzing, the deep blacks cannot be obtained on albumenized paper.

Each grain of chloride of gold ought to tone six or seven prints, 5x7, and two or three of 10x12, which is rather more than the number yielded by the same quantity of gold in the *sel d'or* process.

Fixing—The proofs must be rinsed on both sides upon removal from the gold bath, and fixed in the following solution—

Hyposulphite of soda - - -	6 ounces.
Water - - - - - - -	1 pint.
Carbonate of soda - - - -	1-2 ounce.

This solution will keep many weeks, and imparts a slightly improved color after being much used. The carbonate of soda is added to prevent the fixing solution from acquiring sulphurtoning properties to an injurious extent. The time of immersion is from ten to fifteen minutes, or until no mottling appears in the proof when held against the light. The proofs are washed in the usual way.

THE TRANSFER PROCESS IMPROVED.

BY SENECA BULLOCK.

I have lately adopted the plan of varnishing all my pictures to be transfered, with Hough's collodion varnish as described in the American Journal, page 19.

The advantages of this plan of working, are:

1st. The film is made thicker and tougher, so that the transfer becomes easier and more certain.

2d. The picture does not come in contact with the asphaltum or other black surface, and is hence not lowered in tone, and will be more permanent.

(This is a valuable improvement and will be immediately adopted by the profession. It needs no argument;—it commends itself.

By the way, Mr. Hough may be considered the father of alcoholic collodion; yet the fact seems entirely to have been ignored by our cotemporaries.)—Ed.

CHEMISTRY FOR PHOTOGRAPHERS.

No. 2.

BY THE EDITOR.

Table of the Elementary Substances, with their Equivalents and Symbols.

Name.	Symbol	Equiv.	Name.	Symbol	Equiv.
Aluminum	Al	13·7	Molybdenum	Mo	46·
Antimony (Stibium)	Sb	129·	Nickel	Ni	29·6
Arsenic	As	75·	*Niobium*	Nb	
Barium	Ba	68·50	NITROGEN	N	14·
Bismuth	Bi	212·	*Osmium*	Os	99·6
Boron	B	10·9	OXYGEN	O	8·
BROMINE	Br	80·	*Palladium*	Pd	53·3
CADMIUM	Cd	56·	*Pelopium*	Pe	
Calcium	Ca	20·	PHOSPHORUS	P	32·
CARBON	C	6·	Platinum	Pt	98·7
Cerium	Ce	47·	POTASSIUM (KALIUM)	K	39·2
CHLORINE	Cl	35·50	*Rhodium*	R	52·2
CHROMIUM	Cr	26·7	*Ruthenium*	Ru	52·2
Cobalt	Co	29·5	Selenium	Se	40·
Copper	Cu	31·7	Silicon	Si	21·3
Didymium	D		SILVER (ARGENTUM)	Ag	108·
Erbium	E		SODIUM (NATRIUM)	Na	23·
FLUORINE	Fl	19·	Strontium	Sr	44·
Glucinium	G	6·9	SULPHUR	S	16·
GOLD (AURUM)	Au	98·	*Tantalum* (Columbium)	Ta	92·
HYDROGEN	H	1·	*Tellurium*	Te	64·
Ilmenium	Il		*Terbium*	Tb	
IODINE	I	127·	*Thorium*	Th	59·
Iridium	Ir	99·	Tin (Stannum)	Sn	59·
IRON	Fe	28·	*Titanium*	Ti	25·
Lantanium	La	36·	*Tungsten* (Wolfram)	W	94·
LEAD (PLUMBUM)	Pb	103·5	URANIUM	U	60·
Lithium	Li	6·9	*Vanadium*	V	68·6
MAGNESIUM	Mg	12·2	*Yttrium*	Y	32·2
Manganese	Mn	27·6	ZINC	Zn	32·5
MERCURY	Hg	100·	*Zirconium*	Zr	22·4

The above comprise all the substances which are recognized as elements at the present time. Possibly some day we may be obliged to add to the list, names of substances not now known; possibly also, we may discover that some of the supposed elements are compound.

In the table, the elements which are printed in italics are very rare and not used in the arts; those in capitals are such as the photographer has to do with in his art.

I wish now to give a clearer notion of what is meant by the word equivalent. The very smallest particles into which a substance can be divided are called ATOMS. For example, if we take a piece of sulphur we may break it into two parts, one of the parts may be again divided into two halves—and continuing the halving process, we may proceed a long time till we cannot see the parts without the aid of a microscope; it is supposed there is a limit to divisibility and that limit is an atom, perfectly hard and impenetrable. Thus we speak of an atom of oxygen, of sulphur, &c. Now an equivalent of an element is the relative weight of its atom; and as the hydrogen atom is the lightest of all, we take it as a starting point, and call it 1. An oxygen atom weighs eight times as much, and its equivalent is eight. An atom of mercury weighs down a hundred atoms of hydrogen. Now, do you understand exactly what is meant by equivalent? If not, turn back and read this paragraph again.

In chemical compounds the elements unite by atoms; one atom of hydrogen (1) unites with one atom of oxygen, (8) producing one atom of water. Sometimes one or more atoms of one element, unite with two or three or more atoms of another element. Thus one atom of gold (98) will unite with three atoms of chlorine, (35 5.) Also compounds may unite with each other, and in that case the proportion of the constituents will be represented by the sum of their equivalents. Example—Sulphuric Acid is composed of one equivalent of sulphur (16) and three equivalents of oxygen (8.) Then the combining proportion of sulphuric acid would be $16+3\times 8=16+24=40$. Oxide of iron is composed of one equivalent of iron (28) and one equivalent of oxygen (8.) The combining proportion of oxide of iron is then $28+8=36$. Sulphuric acid will therefore unite with oxide of iron in the proportion of 40 to 36. Combining proportions are also called equivalents. The equivalents of elements are given in the table, and the equivalents of compounds are readily found by adding together the equivalents of the elements which compose them.

To represent the composition of a body by symbols, we simply write the symbols of the elements one after the other. Thus HO explains the composition of water: IP of iodide of potassium; AgO of oxide of silver. If more than one atom of an element is to be expressed, we write the number with the symbol, either before or after it. Thus $2O$, or O^2 mean the same thing, viz; two atoms of oxygen. Sulphuric acid would be expressed thus, SO^3; sulphate of iron, $SO^3\,Fe\,O$. or $SO^3 + FcO$. In future, in naming substances I shall give at the same time the symbols.

Now as we have some notion how compounds are formed, we are prepared to learn the names by which they are known. Chemical names generally express the composition of a substance to which they are given; also generally the composition of a substance suggests its name. Otherwise this part of my subject would be as difficult to understand as Greek. As it is, any person of ordinary capacity, is able to learn millions of names in a few minutes. The system of chemical names is called:

The Nomenclature—The name of a compound is generally composed of the names of the elements composing it.

If the compound is composed of two elements, the name of the most active element is slightly changed (so as to sound better,) and the termination ide added; the name of the other element is unchanged, and connected with the first by the word of. Thus the compound of iodine and potassium is called iodide of potassium, (IP); chlorine and sodium, chloride of sodium, ($Na\ Cl$.) Can you have any doubt of the meaning of the folllowing?

Bromide of silver	($Ag\ Br$.)
Sulphide of iron	($Fe\ S$.)
Oxide of lead	($Pb\ O$.)

According to this system, water, (HO) would be called oxide of hydrogen, and if water were not such a common thing and its name so familiar, we should always call it oxide of hydrogen. Also, in the same way, we use the familiar names soda, potash, and lime, instead of the more scientific names oxide of sodium, (NaO.), oxide of potassium, (PO), and oxide of calcium (CaO)

To express the number of equivalents, of the first element named, we prefix to the compound name one of the numerals: Proto (1) Bi (2) Tri (3) Quadro (4) &c. Thus:

Terchloride of gold	($Au\ Cl^3$)
Bisulphide of carbon	($C\ S^2$)

To indicate three equivalents of the first, and two of the second, we prefix the word, Sesqui. Thus:

Sesqui-oxide of iron	($Fe^2\ O^3$)

PROCEEDINGS OF THE PHOTOGRAPHICAL SOCIETY.

The second meeting of the Photographical Society was convened at the Cooper Institute March 26th.

A. W. Whipple, Chairman; Matthew Haskell and Charles A. Seely, Secretaries.

Minutes of the last meeting were read and approved,—also list of members.

S. D. Tillman Chairman of the Committee on the Constitution and By-Laws, presented a report, which was accepted and adopted unanimously. Mr. Tillman remarked that in the title of the society, the word "Photographical" had been substituted for " Photographic " which is in common use in England. The words are given in Webster's Dictionary as synonyms, but he thought the former more comprehensive, and therefore more appropriate for a society having for its highest aim, the discussion of all topics relating to the action of light; besides "Photographical" corresponded with Geographical, Geological, Historical, etc. English terms universally connected with the titles of scientific societies. A mistake had been made in the first application to a new and beautiful art, of the word "Photography," which means discourse, or writiting about light,—and not writing or marking *with* light. It was, however, too late to correct that error, but not to introduce into general use a legitimate word which is broad and comprehensive in its meaning, and calculated to place this Institution in its character and scope, on a level with kindred scientific societies.

(The annual meetings for elections are to be held on the third Monday in February. The ordinary meetings are to be monthly, on the second Monday in each month. The fees of membership are, initiation, $3; annual, $2. Candidates for membership are to be presented by a standing committee of three, and to be elected by a four-fifth vote of the society. The officers of the society constitute a board of management.)

The committee on nominations presented their report. The election which ensued, resulted in the unanimous choice of all the candidates proposed by the committee. The officers of the society are as follows:

PRESIDENT,

DR. JOHN W. DRAPER.

VICE-PRESIDENTS,

LEWIS M RUTHERFORD, ESQ.
DR. R. OGDEN DOREMUS.
H. H. SCHIEFFELIN ESQ

CORRESPONDING SECRETARY,

A. W. WHIPPLE, ESQ.

RECORDING SECRETARY,

DR. ISAIAH DECK.

The pro-tempore officers of the meeting were instructed to convey the formal notices of the election.

The standing committee on membership, was then chosen as follows: Thos. D. Stetson, Benj. S. Hedrick, Charles A. Seely.

Peter Cooper Esq., by request, addressed the meeting on the plan of operation of the Cooper Institute. A library, reading-room, lectures, &c., are to be established, to be supported and endowed from the rental of the lower part of the building. He expressed his high appreciation of the art of photography, and the good that might be expected from the Photographic Society. Mr. Cooper's remarks were received with applause.

Alexander Benjamin exhibited a number of pictures to illustrate a method of representing statuary, by presenting two or more views of the same object on the same plate. The statue is placed before a black background, an image impressed, the plate shielded, the statue turned around, and another image made by the side of the first. One of the pictures shown was a portrait,—two profile views looking at each other. It was also explained how the process was useful for the stereoscope, and for making comic pictures,—for example, representing the beautiful head of a lady on a man's shoulders.

Charles B. Boyle of Albany, exhibited his method of printing photographs on wood, for engravers. The specimens elicited remarks from various members—

S. D. Tillman.—Such a process brings us nearer nature,—it enables us to dispense with one middle man, the draughtsman. The photograph is a true picture, but too often before it comes before the public in printer's ink, the draughtsman has spoiled all likeness. I hope, some day we may dispense with the engraver too.

C. A. Seely.—The camera presents a different perspective from the draughtsman. The draughtsman represents horizontal receding lines as approaching, while the perpendicular lines are invariably drawn perpendicular and parallel. The camera shows perspective as seen by the eye.

C. B. Boyle.—Also the camera lucida. As a professional draughtsman I have had occasion to observe the same thing. The camera station generally, should be as far from the object as possible.

Dr. Vanderweyde.—In looking at a properly drawn picture, regard should be had to the point of view. Alludes to the anamosphosen pictures, in illustration.

The thanks of the society were tendered to Mr. Cooper for the use of the room.

On suggestion of the chairman, most of the members present signed the Constitution and paid their fees to the treasurer elect. Twenty-one names were subscribed; the list begins with Peter Cooper, and comprises the familiar names of several others who are distinguished for their liberality and scientific attainments.

NEW TONING PROCESSES OF M. BAYARD AND M. LE GRAY.

These Processes have recently appeared in the *Bulletin* of the French Society.

M. Bayard's Process.—In 500 grammes of water, dissolve one gramme of chloride of gold, and add it, in small quantities at a time, to the following solution:—

Water - - - - -	500 grammes.
Hypo-sulphite of soda - -	5 grammes.
Chloride of ammonium or common salt - - -	15 grammes

The mixture, which is at first orange red, soon becomes colorless, and is then ready for use.

Wash the print in water after taking it from the pressure-frame, and immerse it in the above toning-bath. The tone it assumes is first red, then violet, then black, and finally blue. To stop the action remove the print and immerse it in a fresh bath of hypo, strength 15 per cent. Leave it there a quarter of an hour, and wash and finish it in the usual way. The hypo-sulphite affects the tone very slightly; the proofs should not therefore be printed too deep.

M. Le Gray's Process.—My object has been to produce the same effects as I described some years ago in a process of fixing prints with chloride of gold acidified with hydro-chloric acid; but avoiding the objectionable re-action of the acid on the hypo-sulphite of soda.

I had already succeeded in substituting an alkaline salt for the acid in my former process, but my object was not completely attained, the chloride of sodium not removing completely the yellow tint which the paper assumes, particularly when albumenized and kept for a long time.

I have therefore made fresh experiments, and have now I believe succeeded by turning to account the bleaching property of chloride of lime.

The formula is as follows :

1st—Remove the free nitrate of silver from the print by washing it for some minutes in two changes of water.

2nd.—Immerse the print in the following gold-bath.

Distilled water - - - -	1 quart.
Chloride of lime - - - -	40 grains.

Filter, and add 15 grains of chloride of gold dissolved in 4 ozs. of distilled water.

The print acquires in this bath a black tint, which tends more and more to a blue, at the same time that the yellow tint of the lights passes into a clean white.

It takes from ten minutes to a quarter of an hour to produce the maximum effect.

Practice is the best guide to abtain this or that tint.

However, as a guide in the first trials, I should say that leaving the print a minute in the bath would yield a red violet tint after fixing; and that the clear blue black tint would be got after remaining in it an hour or two.

During this interval of time the print passes from the violet tints, through all the intermediate shades, to the strong blacks in the shadows, and thence to the blue-blacks, which become feebler and feebler ; it being understood that I mean after the final fixing with hypo.

There are then two periods, one of increasing the other of decreasing intensity.

3rd.—Wash the print quickly in two changes of water, 'to remove the chloride of lime.

4th—Fix the print in a hypo bath containing one part of hypo to six of water.

This bath should only be used for a small number of prints. The object of it is to remove the unaltered chloride of silver. This effect is produced in from 10 to 15 minutes, according to the temperature.

When the print is put into the hypo it loses a little of the blue-black tint, and becomes redder.

If the tint thus obtained is satisfactory, finish with the usual washings. But in order to increase the chance of permanency I advise that the operations be continued in the following manner :

5th.—Obtain the final black tint by means of the following bath.

Distilled water - - - -	3 pints.
Hyposulphite of soda - - -	10 ozs.
Chloride of gold - - -	30 grains.

Leave the print in this bath at least fifteen minutes; that is the shortest time necessary for the certain permanency of the proof; but it may be left as long as you choose, in order to obtain the desired black tint.

6th.—Wash in the usual way, but above all finish with hot water, in order to remove all traces of the salts.

I observe that prints obtained by this process, besides the good qualities of tone which they possess, have the advantage of not fading,—a result which I have proved in some portraits fixed by this method eight months ago.

EDITORIAL MISCELLANY.

——It will be seen by the report of its proceedings, that the Photographic Society is fully organized, and in active operation; there appears to be the proper interest and the kind of talent to make it one of our most useful and permanent scientific institutions.

The object and the character of the Society are well defined by the following extracts from its Constitution.

"§2.—The object of the Society is to increase and diffuse knowledge of those physical laws which relate to the action of light, and particularly to promote improvements in the art of photography.

§3.—All men of science, all practical and amateur photographers and others who are anxious to further the objects of the society, shall be deemed eligible to membership."

The report of proceedings we offer our readers is not at all official. We desire to have reported in this journal at our discretion, what shall appear of most general interest,—and all fairly and impartially. Of course we assume all responsibility.

The next meeting will be held at No. 23 Cooper Institute, on Monday evening, April 11. We understand that some subjects of great importance will be introduced.

——The interest regarding the Cutting patents is subsiding. We are not aware that anything of more seriousness than threats and hard words, has transpired. Rumors of war have come from New Haven and Providence—but nothing more. In New York a few affidavits have been sworn to concerning Frederick's gallery,—but nothing more. The whole subject is still in such a state of suspense, that the proprietors of this journal, prefer to wait a little longer before finally deciding about the funds which were collected by them.

——We are able to confirm the statements of Mr. Wendell as to the allusion made to us. The letter of Mr. Wendell was written before he had seen the comments on the subject, in our last.

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(NEW SERIES.)

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

Biggleswade—Fine weather and bad business.

The White Horse at Biggleswade was a rare specimen of an old time inn. I can readily conceive the high state of continuous excitement, as coach after coach rapidly drove up to the door. The jolly, fat, and weather-beaten coachman, with tier upon tier of drab cape piled on the broad shoulders within the heavy great coat, as with a twist and a turn, full of the conscious ease he would twirl a kitten, he turns the four panting horses rushing along the high road at fourteen miles an hour speed, clear up to the door, and brings them to a halt with a sudden stop, so sudden, that it would seem as if the heavy vehicle, would topple over with its own momentum. Out pops the obsequious, yet withal, independent landlord, to welcome old faces, or new comers. In a moment, the active ostler has possession, when the passengers, and driver, and guard, turn out, and jump off, to take refreshment, or put up for the night. The White Horse used to be one of the most considerable inns on the " Great North Road," but its glory was of the past, its coaching events were only occasional, its tavern business a partial occupation, its great inn-yard used for livery stables; and the greater part of the large house was let off in lodgings.

The room I had for operating room, reception room, work room, parlor and all, had been the reception parlor of other days, and had a window on the front and side, so that though old-fashioned, and very small, I managed to obtain a good light by putting up a white curtain in front of the window that let the sun in, and having clear glass opposite, and a little distant.

Over our parlor was our sleeping room; a large room, formerly the principle bed-room, having an immense bedstead that required steps to go up to it, and which Mrs. Skylight managed to fall off of one morning, causing me to run up stairs in much affright. Along, and the whole length of the house, was a gallery or corridor, with the old numbers yet on the doors; under this corridor and succession of rooms, were a number of rooms divided by movable partitions, which in old times used occasionally to be removed for the assembly balls, or other congregations of a number of people, but when partitioned off, serving for parlors for the various groups of guests. One of these rooms served for our meals during business hours, but at other times, we preferred our own parlor.

The landlady, though not to say old, was a vigorous relic of coaching days, the survivor of the last landlord, of what were to them the "good old times;" for not more than twenty years had elapsed, since the White Horse was in full tide of success and prosperity. Mrs. Cooper was a rough-looking, hearty specimen of a landlady, with a much kinder heart than her face would lead one to suspect, which was proven by the motherly care with which she waited on Mrs. Skylight; the thoughtful consideration with which she would add some fresh productions of her large kitchen garden to our table, and insist upon not remembering it in the bill, or declare she would like us to taste her productions, or her mode of making pudding.

Printing was of course the first thing in order. Our printer was an oddity; a funny old bachelor of the old school; like the P–less Thomson of Hitchen, he was the printer, stationer and bookseller of the town. The old fellow didn't seem to care whether he did business or not; so would not hurry; indeed I believe he gave out his printing to be done, and took in penny jobs by contract, and gave them out by the same mode. The services of a schoolmaster again came in welcome requisition to address our circulars, he of course knowing everybody in the town.

The prospect for business was by no means good; it was soon palpable the situation was against us. No chance of getting the leading townspeople to the White Horse, though a few years ago, no person in the land but would have deigned to cross its threshold. The rector was by far too elevated to visit an itinerant artist in such a place. The curate however, who occupied the anomalous position curates generally occupy to rectors in England, of educated gentlemen, with not enough pay to keep a mechanic comfortably, yet expected to keep up "appearances," soon paid us a visit. The townspeople said the curate's wife was a beauty, but there was a discrepancy of taste between the villagers and myself. They however did all they could for us, but with little success; many days passed with very little business, though the weather was unexampledly fine; no Italian sky could surpass some of the evenings and mornings at Biggleswade. Oh! for such weather in some other places we visited, the next place for instance. Biggleswade was indeed a dull place to us, scarcely anything to do to engage our attention; a ramble in the woods offered but little diversity and a visit to the old church occurred but once a week; a crowd of cows would sometimes vary the monotony by running down the street, and scaring Mrs. Skylight.

This state of things becoming intolerable, and more especially unprofitable, I jumped on the train to have a look at the ancient city of Huntington; its very narrow streets offered no attraction, though its antiquities would, had I stayed; but a daguerreotypist, half artist, half tradesman, persuaded me there was no opportunity, some one had just gone and had failed of success, and I, in the plentitude of ignorance, as regards traveling, took his advice for gospel, though I am satisfied a city, or large town, is no place for temporary business, though the place ought to have offered an opportunity for a permanency.

Returning, I called at the small and well laid out town of St. Neots, where I engaged rooms, gave directions to the printer, and engaged the cryer to post the bills and deliver the circulars, my new landlord writing them; so with less than three weeks' experiment, we were again to try our fortunes. Once more I packed up and called for our bill. The landlady seemed to think that in some way our ill-luck was attributable to her, and offered some condolence, and her bill, which like its predecessor at Baldock, was a very modest one, and no trouble to discharge. Tomson had caused some little trouble for having much overcharged for our printing at Baldock. I objected to its payment, when he threatened suit, so I paid by advice of Mr. Fry, to save trouble.

COLLODION VARNISH.

Mr. SEELY.—Dear Sir: I received the last number of your Journal containing an allusion to my article on collodion varnish, published nearly a year ago. I have been using this varnish for transfering, for some months. The method I have employed, is the following. I take the picture on the smoothest plate-glass, and when dry, give it a coat of collodion varnish—dry again and repeat. I then flow it with a solution of asphaltum and gutta percha, in chloroform, quite fluid, and perfectly free from sediment or undissolved particles.

When dry, I flow again with collodion, and immediately place in contact, a firm strong tissue paper the required size, which becomes, as it were, a part of the picture itself.

All this is done in a very short time, and I then place it in a dish of cold water—the colder the better—and in a few minutes it is loosened entirely off—as pliable as photograph paper, and as brilliant in tone as any collodion pictures can be.

I do not find it necessary to use acid in loosening the film, and think it gives too great a disposition to curl.

In all cases where I wish to preserve a picture, on glass not reversed, as an ambrotype view, I varnish with two coats of collodion, then with black varnish, and the whites are perfectly preserved.

I find a great difference in cotton, when making this varnish. Some will not work at all, but curdles before there is sufficient alcohol added to prevent the ether dissolving the dried film. Other samples will bear twenty or more parts of alcohol, to one of ether, and yet flow beautifully. But eight parts to one, are sufficient.

I have much pleasure at being able to assist in confirming Mr. Wendell's statement regarding the discovery of his re-developer.

I was in his rooms at Albany, the first week of October last, and during our conversation, he described to me his method, and took a picture to illustrate, which I saw him develope and re-develope, and I am confident from what I saw and heard then, that the idea was original with him.

E. K. HOUGH.

LOUISBURG, N. C., April 5th, 1859.

A SUPPOSED LAW OF COLOR.

BY THE EDITOR.

Who has not admired the gorgeous display of sunset during our Indian Summer? You recollect that the sun and the sky in its neighborhood, change always through the same series of colors.—The series is yellow, orange red, and every school boy recognizes it as part of the series in the rainbow. The rainbow series in one way or another, is before us every day. In modern times the phenomena of the spectrum, are a simple thing; the laws of retraction and interference, explain every case.

The ancients did not know the intimate relation between a sun-set and a rainbow—between the colors of the mother of pearl and of their rusting armor. They observed the palpable facts more than we do; often displaying a religious interest in them. It would not have been strange if some illustrious sage had propounded the dictum; The Gods love that rainbow series. Indeed, I am inclined to account such an expression as wisdom, even for the present time.

In the Indian Summer, you remember, our poets sing of the golden harvest, of the sere and yellow leaf. At that time the grapes become purple, the maple leaves are red. All nature is changing its hue. Now these changes in color, of fruits, leaves and animals, are in the rainbow series. Is it a law of nature that changes of color shall be according to this series? As color follows chemical constitution, we should examine the simplest forms of matter.

Many of the elements are easily classified by means of analogous properties. Every tyro in chemistry associates chlorine, bromine, iodine; carbon, boron, silicon; and sulphur, selenium, tellurium, as natural series, in respect of their equivalents and chemical action. They are also series in respect of color.

Chlorine,	Yellow.	Sulphur,	Yellow.
Bromine,	Red.	Selenium,	Red.
Iodine,	Violet.	Tellurium,	Violet. (?)
Carbon,	(?)		
Boron,	Green. (olive.)		
Silicon,	Red.		

In binary and ternary combinations, we find the same correspondence to the spectrum series. (Proto combinations are distinguished from per compounds by this progression. (Iodides of mercury, oxides of iron, maganese, and copper, chromates, molybdates, chlorophyl, chloride of silver, &c.)

This progression of change of color, seems to be an index of change from life to death, strength to weakness, simplicity to complexity.

Am I deceived ? Are the coincidences I have pointed out only accidental ? If not, I have little doubt that one day we may find as satisfactory an explanation as we have now of the rainbow.

CHEMISTRY FOR PHOTOGRAPHERS.

No. 3.

BY THE EDITOR.

To indicate the smallest proportion of the first, with the second element, the prefix SUB is used; the prefix PER indicates the greatest proportion of the first. Examples; subchloride of mercury, ($Hg^2 Cl$), per-oxide of iron, ($Fe^2 O^3$).

Thus far the system of chemical names is simple enough. I must now explain modifications, which will make it somewhat more difficult.

It happens that many of the compounds of two elements are acids, (a very important class of substances) and it is desirable that the name shall express the fact. The name of an acid is made by joining the names of the elements, and adding the termination IC; as in other cases, the more active element is placed first. Thus chlorine and hydrogen form an acid, which is named chlorhydric acid, (HCl); Iodine and hydrogen, iodhydric acid (HI); bromine and hydrogen, bromhydric acid ($H Br$). But the greater part of acids contain oxygen as the most active element, and it is agreed to drop the word oxygen in the name, as no misunderstanding can arise. The name sulphuric acid, (SO^3) indicates an acid composed of sulphur and oxygen; nitric acid (NO^5), of nitrogen and oxygen; carbonic acid, ($C O^2$), of carbon and oxygen. Oxygen often combines in several proportions with the same element, to form acids. To distinguish these, the name of the acid of the smaller proportion of oxygen, terminates with the syllable OUS. Thus the name sulphurous acid, (SO^2), indicates an acid with less oxygen than sulphuric acid, (SO^3). To express an acid with still less oxygen, the prefix HYPO is used; hypo-sulphurous acid ($S^2 O^2$) is an acid with less oxygen than sulphurous acid (SO^2).

I have now shown how all compounds of two elements may be named.

All the acids which contain oxygen, (sometimes called oxy-acids,) combine with oxides. For example, sulphuric acid (SO^3), combines with the oxide of iron, and the name of the new compound, is sulphate of iron (FeO,SO^3); nitric acid NO^5) combines with the oxide of silver, and the compound is called nitrate of silver (AgO,NO^5). In these cases, as in all others of the union with an oxide, of an oxyacid terminating in IC, the termination IC of the name of the acid, is changed into ATE. If the name of the acid terminates in OUS, it is changed into ITE. Thus; hyposulphurous acid ($S^2 O^2$) with soda, (NaO) becomes hyposulphite of soda ($NaO,S^2 O^2$). Only the name of the base of the oxide is expressed; oxide is understood before it; sulphate of iron means sulphate of the oxide of iron.

PROCEEDINGS OF THE PHOTOGRAPHICAL SOCIETY.

THIRD MEETING.

The Photographical Society held its third meeting at the Cooper Institute, on the evening of March 11th, Dr. John W. Draper presiding, and Dr. Isaiah Deck, acting as Secretary.

Letters of acceptance from the officers elect were read, expressing a deep interest in the object of the Society, and assurances of co-operation with the members.

The routine of business as provided by the laws of the Society, was announced by the President.

Under the order of written communications, R. L. Pell, Ex-President of the American Institute, read a paper on the recent progress of photography. The paper comprised a history and description of various discoveries and inventions of the past few years, in all departments of photography. It displayed the author's well-known ability and was peculiarly appropriate for the initiation of the society's active operation. Mr. Pell's remarks were received with applause.

S. D. Tillman, in allusion to a process described by Mr. Pell, contended that photo-chemical etching for the typographic press, was a problem capable of satisfactory solution.

Charles A Seely read a paper "On a supposed law of color." (see page 343.) Mr. Seely added to the paper, explanatory remarks, and showed a co-incidence with his theory, of some apparent exceptions.

Dr. Deck, (in allusion to a remark by Mr. Seely that chlorophyl by oxidation, or change to a substance of greater complexity on exposure to air and light, became yellow and red, I have found that chlorophyl is not a simple green, but is composed of a blue and a yellow element, which may be separated.

The President confirmed the statement regarding the composition of chlorophyl. He exhibited a photograph presented to him by Sir John Herschell in 1842, of which the original sensitive substance was chlorophyl. The picture, although not much faded, had changed from green to blue, the yellow was nearly extinguished. He had observed that there was a tendency of colored light to destroy the same color in sensitive bodies, and to strengthen or produce the complementary. Yellow light falling on green, would extinguish yellow rays, while the blue would be more vivid. A direct heliochrome picture would be complementary to the object. These facts indicate the path to be pursued in the search for a process to produce pictures in the natural colors.

C. A. Seely,—My remarks about chlorophyl, were founded on statements made in Loewig's Organic Chemistry. But I place the experience of gentlemen here above the authority of any book.

Prof. Reuben,—The theory of Mr. Seely affords us one more example of the symmetry and simplicity of nature's operations. It harmonizes beautifully with other generalizations of the properties of matter of recent discovery. We constantly find out that phenomena at first appearance, of widely different character, are yet closely allied.

Mr. Davidson,—Had recently been examining gun cotton microscopically. He found that gun cotton polasized light in the opposite direction from ordinary cotton. Promised to pursue the investigation, and report to the society.

Dr. Deck,—Had the impression that Faraday had already discovered the same property of gun cotton.

Lewis M. Rutherford, (Vice President)—Exhibited many beautiful photographs of the moon, some of large size, and others arranged for the stereoscope. Mr. Rutherford addressed the meeting at considerable length on the application of photography to astronomy, describing his apparatus and process. He had little difficulty in getting impressions of stars of the 5th magnitude. He got impressions of Jupiter in five seconds, while his satellites required five minutes of exposure, although the light from the satellites appeared much more intense. In the course of his experiments, he had discovered the very curious fact that if the exposure of the sensitive plate be interrupted and again continued, the intensity of the image would be much greater than if the exposure had been continuous; expose a plate five seconds, shield it five seconds, and expose again five seconds, and the intensity will be greater than if the exposure had been continuous for ten seconds. Mr. Rutherford's remarks were listened to with the greatest interest, and elicited hearty applause.

The President,—In 1841, I exhibited daguerreotypes of the moon, and read a paper on the subject before the Lyceum of Natural History. Mine was an early attempt at what Mr. Rutherford has perfected.

In answer to a question, the President said that polarized light had no different chemical effect from ordinary light. The polarizing apparatus absorbed some of the light, but there was no change of chemical properties.

Dr. Vanderweyde,—The observation of the President accords with the theory of polarized light. Polarized light is only common light with a change in the direction of its movements.

John W. Batchelder exhibited specimens of photo-lithography, which were considered superior to the specimens exhibited at a former meeting. During a brief discussion of the art of photo-engraving, Mr. S. Wallen remarked as follows: An adaptation of the photographic art, which, if perfectly successful, will be of great benefit, is photographing on wood for the purpose of engraving. To make an engraving on wood, the subject is first drawn on the block, and the engraver then cuts away all those parts, and those spaces between the lines, which are to appear white in the proof—the design thus being made in relief. To print from the block, ink is rolled over the surface, which adheres only to the raised parts, from which, by pressure, it is transfered to the paper. Now, that the engraver may work with ease and certainty, the design should be drawn with great accuracy, and the truth of the photograph makes it very desirable for this purpose; but great objections to its use have heretofore existed. The wood should not be discolored, the sensitive surface must neither crack nor peel off, nor be too thick; it should also be of such a nature that it may be drawn upon with the black lead pencil with perfect facility;

for the best photograph would not be fit for the engraver's purpose without the addition of pencilling. All these conditions appear to be met by the invention of Mr. Boyle. My attention has been directed to his process only within a short time, but I do not doubt that for a large class of subjects, especially inanimate objects, geological and botanical specimens, articles of furniture, machinery, buildings, &c., it will be of great utility. That I might be better able to judge of its merits, I have myself engraved a small portrait photographed on the wood for me by Mr. Boyle for the purpose. I should think that by a good engraver it could be employed also to much advantage. For whatever class of subjects it may be employed however, it cannot be employed to advantage without the aid of the draughtsman, neither will it enable a bad draughtsman to take the place of a good one. The good draughtsman will aid and heighten the beauty and accuracy of the photograph, while the bad one will destroy both. It is not desirable nor possible, that any process should supercede the hand and mind of the artist, but everything that aids and rightly directs them should be hailed with joy and gratitude; and in the hope that it may be nobly employed in the elevation of this branch of art, I welcome with pleasure this invention of Mr. Boyle.

During the order of miscellaneous business, the Secretary was instructed to print the Constitution and Laws of the Society. About twenty-five new members, including one life member, were duly elected. The attendance was large, and the whole proceedings were of the most spirited character.

Adjourned to meet on the second Monday of May next.

From the Photographic Journal.

PHOTOGRAPHIC PATENTS.

There is a matter of serious importance to the interests of photographers generally, and but to professionals especially, that calls for speedy attention; we mean the daily increasing propensity amongst a certain class to impose restrictive limitations to the free use of various processes and materials in connection with photographic pursuits. This is an evil of much greater magnitude than appears at the first blush, and one likely to interfere materially with the progress of our art. The council of the photographic society would do well to take into consideration whether any legitimate means might be adopted to obviate the continuance of a practice likely to prove seriously obstructive.

If any person, by patience, perseverance and industry, succeeds in introducing an improvement, either in a process or piece of apparatus, although it may be brought about in consequence of suggestions unreservedly communicated to the public by others, he may, if he be so minded, secure to himself the exclusive privilege of its enjoyment by means of A PATENT; and although we may not in such a case approve of his illberality, we cannot question his *right* to act as he may please with what is undoubtedly his own; but what we do complain of, and what photographers will do well strenuously to resist, is the now too frequent attempt to secure by patent that to which the pseudo patentee *has no right whatever.* That this evil is a daily increasing one we have abundant evidence before us; and we will, by way of illustration, call attention to a few cases in point.

In our last impression we published a letter from a correspondent in the United States, desiring information relative to the period when bromides were first used in collodion in this country, as a patent had been obtained in America in July, 1854, to secure amongst other matters the exclusive use of this class of material, which supposed right has recently been enforced by legal proceedings. Now we cannot say exactly how long prior to the date mentioned, bromides had been used in collodion in this country; but the fact of their having been used both by Sir John Herschell and Mr. William Crookes, was made public not less than *thirteen months prior* to the date of the patent, and within a month or two of that anouncement, bromized collodion was extensively employed in London, Liverpool, and elsewhere.

We have noticed that the same parties lately obtained a patent in this country for a photo-lithographic process, and this brings us to another observation: how is it possible, considering the number of patents granted in which the use of bichromate of potash with organic matter forms the essential principle of action, that more than one of them can be good; and if this be the case, why are applicants for letters patent involving the principle mentioned, allowed to obtain them? Again if tho use of bichromate of potash with organic matter be not the exclusive right of any one, then it follows that the most trifling variations in the *modus operandi* is sufficient to evade the infringement of a patent.

A third instance we may cite, in a patent recently obtained viz., in June, 1857, by Messrs Glover and Bold, of Liverpool, for what they are pleased to term "the extended use of photography as applied to dials, tablets and pictures," these said extended uses," consisting in the employment of *opal glass*, instead of the ordinary colorless kind, and the rendering the surface slightly dulled by the use of fluoric acid. Now if such obvious trivial variations can be the subject of a patent, it is by no means difficult to show how any infringement is avoided while the same end is attained; but what renders the matter still more ridiculous is the fact that a patent was granted for *precisely the same thing* to Mr. John Ure, of Glasgow in 1854.

It may be contended, that if a person obtain a patent improperly, he is liable to have it rendered void, and thus suffer damage; but granting this to be the case, what reparation is made to the public? If a photographer, knowing that the subject of a patent is, and has been for some time public property, determines to act upon that knowledge, and use the privilege, he renders himself liable to an action, to which he would not have been subject but for the improper concession of letters patent It is not to the purpose whether he gains his cause or not eventually, he ought not to be placed in such a position by the wrong doing of another.

We cannot but entertain the opinion, that it would be well worth the while of photographers generally to attempt to devise some kind of supervision relative to the granting of patents upon all matters photographic.

POSITIVE PRINTING.

Mr. Maxwell Lyte's Gold Toning Formula.

This formula answers equally well for plain or for albumenized paper; but it is more especially suited for the latter, which is sometimes difficult to tone by ordinary methods. The proofs, printed darker than they are required to appear when finished, are first laid to soak in a dish of clean water, then removed to a dish of salt and water, in which they must lie at least five minutes, with a view of converting any free nitrate remaining in them into chloride. The degree of strength and time of immersion in this bath are unimportant. An ounce or two of common salt to a pint of water will answer. This bath is essential to preserving the gold bath from decomposition. The latter is prepared as follows:—

Chloride of gold	10 grains.
Phosphate of soda	3 drachms.
Distilled water	1 pint.

This mixture should be neutral to blue litmus paper. The proof, so soon as it is placed in this bath, changes color, and passes rapidly from red, through various hues of purple, to a rich black, or rather grey; while the green solarized parts darken and develope their half tones in a surprising manner. The toning may de stopped at any particular point; if at the purple hue, the picture. when dry and finished, will be of a rich deep sepia; if at the black, the picture will be more inclining to black and grey. Upon removal from this bath, the proof is placed in pure water, and afterwards in a fresh solution of hyposulphite of soda, twenty per cent., where it should be allowed to remain an hour at least, then washed as usual. It loses but little of its strength in the hypo, but becomes clearer and better defined.

The principal advantages of this method appear to consist in the coloring bath being perfectly neutral, and consequently it produces no decomposing effect upon the hyposulphite, thereby ensuring greater stability for the proofs. The color is produced solely by the gold without the aid of sulphur or other deleterious agents; and moreover, no organic matter being present in the bath, spontaneous decomposition, causing the gold to become precipitated, is avoided. The gold bath may be prepared in any quantity; the portion used must not be returned to the stock-bottle.

For proofs which require to be over-printed, a few drops of syrupy phosphoric acid, if added to the above bath, will bring out the details of the deeply solarized parts; but then more than ordinary care is required in washing the proof before it is put into the hypo, to which a little carbonate of soda or chalk is a useful addition. The phosphate of soda in the above formula may be replaced by one drachm of bi-borate of soda—common borax.

THE CUTTING PATENTS.

Mr. Editor.—We have talked so much about the Cutting patents, that I fear the proprietor of them may get to think there is really something in them after all; that they are valid and useful. For myself I believe they are neither one nor the other. But as there may be a few among your distant readers who may imagine some ground for the legal validity, I wish to show them that they do not need the patents, that they should refuse them as gifts, even if they were paid to use them.

The balsam sealing is very little used in large places. Many galleries have specimens to show the bad effects of balsam, but do not attempt to sell the pictures. I have had balsam pictures in my show cases, which I am obliged to change every two or three months,—while I have pictures simply varnished in the usual way, which are not in the least impaired after a lapse of years. Once I sold a balsam picture because the patent pictures were so much talked about and praised. The picture was right in all respects but the balsam. It was hung up in the parlor near a stove. Heat expanded the picture, balsam trickled out on the expensive wall paper, down on the carpet. The blowing up I received and the threats of law suits, were not at all enviable. It is scarcely necessary to say that I made no more balsam pictures.

As to bromides, very few use bromide of potassium, and I am satisfied that we may fairly dispense with all bromides as the English do, should we find it necessary. I have made good pictures from collodion containing no bromide whatever.

TROJAN.

ON A DILUTE ALBUMEN PRESERVATIVE PROCESS.

BELSIZE, HAMPSTEAD, Jan. 3. 1859.

TO THE EDITOR OF THE PHOTOGRAPHIC JOURNAL.

This process may be considered as a modification of Fothergill's, the collodionized plate on its removal from the nitrate bath being simply washed with *very dilute* albumen, and afterwards with water.

Albumen, to each ounce of which 3 minims of liquid ammonia and its own bulk of water are added, is beaten up in the usual way, allowed to settle, and filtered through sponge; it may be preserved in a stoppered bottle with camphor; for use 1 ounce is diluted with water to make up 20 oz.

The success of this process appears to depend in a great measure on the proper degree of dilution for the albumen. The above succeeds very well; a stronger solution seems to cause markings on the plate like those on watered silk, in consequence of too rapid coagulation; for if nitrate of silver be added to a concentrated solution of albumen, a dense precipitate is rapidly formed; but if the albumen be much diluted, a precipitate is produced only after the lapse of some time, and in a finely-divided state; this is the condition suitable for this process. The manipulation for stereoscopic plates is as follows:—On removing the plate from the nitrate bath, let it drain for half a minute, and wipe the back with blotting paper, the lower edge resting on a small pad of the same material: then place it face upwards in a bath, having a well on one end, into which has previously been poured about two oz. of the dilute albumen; lower the bath rapidly, so that a wave of the fluid may flow quickly over the surface of the plate; keep it flowing backwards and forwards for about two minutes, or until the albumen, which at first was clear, has become quite milky, and does not appear to get more so; pour it off, and supply its place with water and agitate. The plate is now removed by means of a hook, and *well washed* under a tap, and finally rinsed with distilled water. It may be set aside to dry, or may be dried rapidly before a red fire or over a spirit lamp.

The plates thus prepared are very sensitive. 30 seconds to 1½ minutes being sufficient to print a transparent positive by means of an argand gas-light,—plates preserved by the gelatine processes requiring from 6 to 8 times as long with the same negative and burner. An exposure of 4 minutes, with lense of 5-inch focus, and 3-8 stop, at 3 o'clock on one of the late very dull afternoons, of a subject containing dark masses of trees, and stumps, &c., proved sufficient for the most minute details in the dark parts. The collodion should be one that adheres firmly to the glass, although the tendency to separate is not so great in this as in the gelatine processes.

The developer is 1½ grain pyrogallic acid and 3-4 citric acid to the ounce, no alcohol or acetic acid; the plates should be levelled and well washed with two waters, and drained before pouring on the developer; 3 drops of a pure 30 grain solution of nitrate of silver should be added to about 2 drachms of pyrogallic solution and mixed, before using: when the picture has appeared in *all* its details (which takes considerably longer than with wet collodion), more nitrate (5 or 6 drops) may be added to blacken it, pouring off and well mixing. If the first developer becomes much decomposed, a fresh quantity should be mixed, using 6 to 8 drops or more nitrate until sufficient intensity is obtained.

It will be found (contrary to the usual instructions) that the picture will develope clearer and darker, and the pyrogallic solution become less discolored, if it be allowed to remain at *perfect rest* on the levelling stand after the first wave backwards and forwards to spread the solution, motion appearing to cause the precipitate to form in the solution instead of on the surface of the exposed parts.

Fix with cyanide, as it requires less final washing than hypo.

F. GIESLER LLOYD.

EDITORIAL MISCELLANY.

——Photography is destined to become one of the most popular arts of recreation and amusement. Some day, perhaps not very distant, the camera may be reckoned as needful an article of furniture for a modern fashionable mansion as the piano, the chess-board, or the billiard table.

Photography as a means of amusement has the advantage above any game of skill or chance, that it leaves some tangible result which may be a joy forever,—the pictures made, may become treasures and heirlooms. Photography encourages and requires study of other arts and sciences—the more we become skilful photographers, the more chemistry and the more of nature's working do we learn. Practice of studying, begets the habit of studying, and knowledge travels an open road into the mind. Can we recommend a better amusement to the young men ? Photography does not make one drunk, or corrupt the heart !

——In the report of the second meeting of the Photographical Society, the name of John Johnson, Esq., Treasurer, was omitted by some inadvertance, from the list of officers elect. Mr. Johnson was one of the firm of Wolcott and Johnson, who inaugurated the business of daguerreotype portraiture in this city and London, in 1840. Although for many years he has been in no way interested in photography as a business, yet we trust his connection with the photographical Society will revive some of his ancient enthusiasm, and induce him again to become a zealous worker.

——We have had in our possession for publication, the specifications of an English patent for an improved photographic process, by Oliver Sarony of Scarborough, but at the time we wanted the document we found it had been mislaid. The patent is dated April 5th, 1858. His improvement consists simply in rendering a photograph which has been colored, translucent by means of white wax, or the color may be applied after the wax. The picture when finished is backed up with white paper. The process has lately been introduced in some of our galleries, under the name of "Ivorytype." The pictures, when well executed, are truly beautiful; but the coloring requires the skillful hand of an artist, and for that reason the process cannot come into general use. The process of "Ivorytype," on page 254, may be practised without the aid of an artist.

THE AMERICAN

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[NEW SERIES.]

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RECOLLECTION OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

St. Neot's

If we met with but little success in Biggleswade, we were ushered out with politeness, for the railroad officials at that station seemed an improvement on the usual kind of people to be generally found in offices of great companies, or their masters, the public, though it must be confessed there is a vast difference between the London officials and provincial ones, the difference is doubtless to be found in the vast amount of businesss to be attended to, and the numberless questions they are subjected to in great cities. New York is certainly no improvement on London.

The light at St. Neots, offered no very great hope of success, as the window was narrow, the wall close to the window, with a great projecting balcony in front. But the situation was excellent, as were also the rooms, and though not overstocked with furniture, they were neatly finished and furnished. Our landlord was a quiet and intelligent fellow, and did occasional duty for the Unitarian preacher, who did not reciprocate the kindness, though he accepted the extra pay for the occasional calls. Our entrance was through the store or up an alley-way, just as the sitter saw fit, and as everybody knew everybody else, it was not difficult or *infra dig* to choose either entrance.

The first thing of course to be done whilst waiting for business, is to take a view of the town. The market place is a large square space, possibly one of the best market sites in England, though with not a particle of covering or shelter, other than the temporary arrangements of the market people, and the covers of their wagons. The square is surrounded with neat, if not handsome stores, one of which, (our printers), was occupied by the brother of the P—less and H—less Tomson. Two or three large hotels are also in the market place, the whole of which appears quite modern, though the town is not, at least if we are to judge by the old Episcopal church, which is almost deserted for its handsome and more modern neighbor; and well the old church might be deserted, if it always has the cause for non-attendance, that was a reason for one visit only by Mrs. Skylight and myself, for of all the dull monotonous, prosy preachers, with matter without manner, and equally manner without matter, that caused me the greatest amount of trouble to keep awake that preacher we listened to, the divine at the old church of St. Neots, was the least able to carry off the prize should one ever be awarded, for the best specimen of a man undertaking what he was lesat able to do. There was one happy relief however, and that was, that the singing was quite equal to the preaching.

Just outside St. Neots, is a paper mill, that now produces a paper so well known to photographers; at that time its proprietors were already engaged in making experiments with paper to suit the wants of the profession. Odd as it may seem, though it is now used by the ton, paper makers in the United States have not yet summoned up sufficient enterprise to compete, though fully able to do so. I make no doubt Mr. Journal you could post them up in its disposal.

Somehow or other, business seemed somewhat like that in Biggleswade, though the weather was not, for rain succeeded rain, and shower, shower. My landlord proposed to offer to take the miniature of his Preacher and family at half price, to begin trade. I readily embraced the offer, and soon took the fat parson and family, which was no easy matter, for the parson was exacting, and wanted expression, and was not a whit behind any young man in the town in vanity, though displayed in a different manner. But when the pictures were sent home, and I was reckoning on a few pounds for the lot, my pious friend declined to pay, and wanted them at half price again, pretending that half price meant just half my bill, though that was half my price. Mr. Druggert was annoyed, but knew his man, I was savage, and sent a sharp note, and at last sent and demanded the pictures back, preferring that course though much in want of the cash, for I did not wish the parson to turn sculptor and chisel me, so back came the pictures; the parson and I no doubt formed very favorable opinions of each other.

But if the parson was mean, there is no denying the fact of his ability, and we both sat under his preaching with much satisfaction, satisfaction at the eloquence, not the man, for I could not reconcile consistency with his acts and precepts, but just as bad preaching or speaking is a bore, so is eloquence a pleasure, and is there any reason why we should not derive some from even a mean parson? that is, when it is conferred generally, for I hold that no one ought to derive or accept a personal pleasure or favor from one whom he dislikes, it destroys his independence of thought and feeling; any one receiving a personal favor must in some degree be biased, or is cold and unfeeling; don't our office seekers know that? is not the briber worse than the bribed? a bribe may be accepted unwittingly, and a bias may as unwittingly be conceived, but the briber and the tempter lay their plans.

Mrs. Druggert was a queer little woman, a very little woman, who together with her baby could not weigh near one hundred pounds. The baby was a queer little fellow, always crying, he did not like to be killed with kindness, not he indeed, nor be washed to death; it would have been wiser to have plastered him up a little rather than wear him out with friction, and the friction might have passed over him somewhat harmlessly, nature might have recuperated him during the friction intervals, did not the aforesaid washing, and scrubbing and swaddling, and rolling, generally take place near the open door or window, or in drafts and winds; poor Mrs. Skylight got quite alarmed at the impending fate of the unfortunate child, and I verily believe it caused some of the illness that necessitated her mother's sudden trip to St. Neots. But was not Mrs. Druggert a mother? didn't she know what was good for her baby? what could a newly married very young woman know about children? I would bet my best camera that that mother does not now wash that baby. Mrs. Druggert was a queer woman in other respects. She was a very superior housekeeper, especially in those little considerations regarding her lodgers; tea, coffee, sugar &c., so fearful that some things might be lost, was she, that she would sometimes save them the risk by avoiding the dangers of a journey from the kitchen to the parlor; but then she had such a queer taste in beer, taking it at such odd times, and for such strange reasons. In England it is customary to have beer for dinner, the absence of it from the dinner table would be as great an omission as the salt, or cruet stand. But Mrs. Druggert was an exception, she didn't take beer, it did not agree with her. Nevertheless with great forethought she advised us to lay in our Sunday supply on Saturday night, and though she seemed to apply a curious guage to our appetites. and lay in what I thought an extravagant supply, yet there was not enough to outlast the day, even with an ordinary demand. I was puzzled in my arithmetic. I knew so many glasses made a pint, and so many pints a quart &c.. still the result did not tally. One Sunday morning Mrs. Kindly, Mrs. Skylight's mother, knowing a little more than herself in housekeeping, resolved to superintend our breakfast so went into the kitchen for the purpose, and there was Mrs. Druggert the first thing in the morning, on an empty stomach, drinking beer. "Do you drink beer so early in the morning?" asked she. "Oh dear no, but as I felt unwell, I thought I would go out and get a little." A droll notion, especially as the shops were not open.

A LETTER FROM ROCKFORD.

ROCKFORD, April 26, 1859.

So you have a photographic society, or photographical, as you call it. Well I congratulate you, ye men of Gotham, and you also, conductors of the American Journal of Photography for you have exerted for the purpose. It is not strange that you have a society, but that it was not an institution long ago. It seemed odd that while cities and towns in England, large and small, should possess one or more, the great photographical nation, throughout its length and breadth, could not produce a single one. Well, it is a success as well as an inauguration, judging by some of the names attached, and the work already done; may it be the forerunner of many more, not only in other cities and towns, but in New York itself, for its great extent ought to produce enough amateurs to have a society at each end. It is to be hoped that amateur photography will become a fashion, it is not only a harmless and cheap amusement, but keeps people engaged, and free from expensive habits and enables them to contribute something to art and science.

You have doubtless seen an article going the rounds of the papers, culled from your very ingenious London contemporary "The Photographic News," suggesting a microscopic photograph of the moon, and then magnifying it, until you could see living objects in motion? and says this great discoverer. "An Italian savan has done it; smart, ain't it? a regular moon hoax, not as good as Locke's though, yet in spite of its palpable absurdity, some people believe it. I do not object to a publication getting up a good joke to reap notoriety, but when it gives forth an absurdity, as a serious scientific fact, I think it worth while to expose it.

There is no known substance however dense, but is porous, and has an uneven surface, no matter however impalpable to the naked eye; therefore the best possible surface to be imagined, when magnified to the size, so as to make even an elephant a visible speck, enlarged from a photograph of so large an object as the moon, must present a curious appearance of hill and dale, where the Elephant would be lost in a hollow; why, the pores of the highest polished glass, would appear like tea cups, and its impalpable polishing lines, like so many rivulets crossing and re-crossing each other ; how then, after such a material as collodion or any other photographical substance, (which must be porous or be incapable of receiving the excitants necessary for a chemical change), is poured over the surface ? I should hate to fall into a chasm such as each pore would appear, or attempt to jump over such a ravine as each ridge would represent; no matter how carefully the plate was manipulated. Why, I feel quite slighted, through my little hoax being entirely unheeded, that of taking pictures by electricity, a sitter at one end of the wire and a camera at the other : it certainly cannot be demonstrated as an impossibility, so is the better joke of the two.

How about the same philosophical and scientific journals, bottled light ? I consult you in confidence, not being posted. I have heard of bottled thunder, which of course is a prime article, possibly the light is the lightning that preceded, and caused the thunder. We westernites unluckily have no new discovery to impart, no startling event to record, but if you are willing to pay in tip top style, we could out-bottle light and take and do for the moon, and have enough metal to turn out wonders to order. By the way, the M. B. B. Journal is likely enough becoming respectable, at least if we can argue anything from a change of conductors, it can't be such a bore as it was, the present must be better, or not as bad. His predecessor was the non-conductor of respectability.

Gossip.

METHOD OF RAPID PHOTOGRAPHY UPON PAPER:—
DRY MANNER—WET MODE—
Development of the Image by means of Sulphate of Iron.

Translated from *La Lumiere.*

Since the discovery of collodion, photographic processes upon paper are almost discontinued, and with very good reason. Collodion works with more correctness and rapidity. Nevertheless, if two impressions of the same subject be compared, one taken upon collodion, the other upon negative paper, it is to be remarked that the impression taken upon paper is richer, softer, more œrial, more profound,—in a word, more *artistic* than the other. This difference in results has led me to new trials upon paper, in order to obtain the precision and dispatch procured by the use of collodion.

The method which I submit to the judgment of your readers will, I trust, accomplish this object, and will re-establish negative paper in the place it occupied originally in photographic processes. As the base of my new experiments, I have chosen the gelatine employed by one of our most able artists, M. Baldus; this substance effects no change upon the silver bath, and preserves all its limpidity. In following his method, I obtain more delicacy by passing a sizing over the paper before iodizing it, 'and more rapidity by immersing it in an etherial alcoholic bath of iodine before placing it in the silver bath; besides, these two operations are in addition to the methods of M. Baldus. I develope the image with sulphate of iron, which is, we know, the most rapid means of development. I give now the method just as I practise it. I choose paper of the most even quality; I mark one of the sides with a lead pencil; I then spread over it the following application, composed of rain water, 22 ozs., gelatine, 150 grains. I let the paper float for a few minutes in the bath, after which take it out, and let it dry by suspension. I prepare in this manner a number of sheets, and when they are dry, I collect them in a portfolio, which is then put under a press until the next day.

To Iodize the Paper :—

Of the above solution of gelatine, - -	16 ozs.
Iodide of potassium, - - - -	½ oz.
Bromide of potassium, - - - -	46 grs.

I dissolve the whole by heat, and pass it through a cloth, into a vessel kept warm on a bath. I then prepare my papers as upon the previous evening, having carefully avoided bubbles of air, and placed each sheet of paper upon the side already prepared. After desiccation, I enclose them in a box kept in a dry place. This double preparation gives greater delicacy to the impressions, renders the paper unalterable, preserves its whiteness, and never produces spots,. which is easily understood, because the iodine does not come in contact with the substance of the paper, which often includes substances of various natures, which neutralize a certain ray, and produce, when the image makes its appearance, a number ef minute spots which injure the impression in a manner not to be repaired. This preliminary process of sizing over is therefore of undoubted necessity.

To Sensitize and produce the Luminous impression.—At this period of the process, in order to make use of the paper, I hold it by an angle or corner, by means of a small iron hook, varnished with gum-lac dissolved in alcohol ; I then immerse it in the following bath :—

To Sensitize.

Ether - - - - - - -	1½ ozs.
Alcohol - - - - - -	4½ ozs.
Iodide of potassium - - - - -	½ ozs.

The paper imbibes this preparation instantaneously. If I mean to operate in a dry manner, I raise the sheet of paper, and dry it by suspension ; in the contrary case, by the damp manner (or method), I spread it out, the face upwards, on the silver bath serving for the negatives with collodion. After two or three minutes of contact, according to the temperature, I raise the sheet of paper, and place it immediately upon the glass of the dark slide to receive the impression. The time occupied in exposure is nearly the same as for collodion ; nevertheless I make the observation that a bath of silver, with the addition of acetic acid, gives more sensibility to the paper. For any other photographic process that I am aware of, the acid retards the luminous impression, while for this one the effect is the contrary. The acid opens the pores of the gellatine, swells it, and consequently renders it more permeable to the chemical action of the light.

Development of the Image.—When the paper has received the impression, I plunge it in water with alcohol added, then I spread it over the solution filtered with sulphate of iron, having already served for collodion.

The image afterwards appears in all its details; if it should want vigor for want of balance, I let the paper soak, I spread it upon a glass plate, upon which I pour, commencing at one corner, a weak solution of nitrate of silver, I then pass it a second time through sulphate of iron. This simple method of reinforcement is sufficient for all the intensity desirable. As will be seen, if one has a good stock of iodized papers, the manipulations are very simple, require but little time, and do not require a complication of new baths. But the principal advantage afforded by this method is the facility with which one obtains rapidly, by the dry manner, the most excellent proofs. I return to what I said above relative to the paper which I dry by suspension in taking it out of the bath. This drying of papers by the dry manner is not imperative. I only indicate it as giving more facility to the work. I generally prepare from eight to ten sheets of the paper; when I arrive at the last, the first one, well-soaked, is ready to be placed on the silver bath. After the two washings, which ought to follow the rendering sensibility to the papers, the other operations are the same as by the wet method. I have still some communications to make to you. One day when I had impressed two papers with the same subject, I treated one with sulphate of iron, the other with gallic acid. The proof submitted to sulphate of iron, developed most rapidly, and gave me as usual, a good impression; the one placed in gallic acid revealed no trace of any image. Nevertheless I felt certain that the paper must have received an impression, for the time occupied was precisely the same as by the proof developed by sulphate of iron. In order to increase the rapidity of the image, I added to the bath of gallic acid some drops of nitrate of silver, then waited for an hour without any result. At last, feeling impatient that the image did not appear, I took a phial containing an old bath of nitrate of silver, which formerly had served for several experiments; this bath contained ether, alcohol, iodine, acids, and a little sulphate of iron. I decantered the clear part of the liquid, and then poured a sufficient quantity of it into the solution of gallic acid. Being afterwards engaged in other operations, I left the impression alone, as an attempt which had failed. An hour afterwards, on re-entering my laboratory, I was surprised to find the image perfectly developed; but what astonished me still more was to find that the bath reducing it had not experienced any alteration.

What can be the substance of the old bath which has maintained the gallic acid in such good condition? I address this question to my confederates and to all our photographic chemists. I think myself able to give replies to the following other questions:—Why is collodion the most rapid of all the methods employed in photography ? Does this rapidity proceed from the pyroxylin which enters into the composition of the collodion, or is it due simply to the two substances in which it is dissolved ?

Without pronouncing openly my opinion on these questions, I think we must attribute to the ether and the alcohol united, this property of acceleration. In effect, I have been able to assure myself of this, by the preceding method, that ether and alcohol, imbibing the paper almost in an instant, render easy the combination of photogenic products, and consequently open a free access to the chemical action of light. These substances, ether and alcohol, are consequently most powerful agents in photography.

VERNIER, Jun. of Belfort,

Upper Rhine.

CHEMISTRY FOR PHOTOGRAPHERS.

No. 4.

BY THE EDITOR.

The chemical nomenclature as I have given it, although quite simple and reasonable, has only by degrees reached its present state of perfection ; and even now it is not universally employed. It is therefore necessary for me to say that until quite recently, the termination URET, has been commonly employed instead of IDE, in some of the names of the compounds of two elements. For example, sulphide of potassium, as we now name the compound of sulphur and potassium, was called sulphuret of potassium ; iodides were called iodurets. Also, chlorhydric acid and bromhydric acid are still called in commerce, hydrochloric acid and hydrobromic acid. Druggists and physicians especially, who ought to be the first to adopt the reform, still continue to use such unscientific names as muriatic acid, hydriodate of potash &c., making it almost necessary for the modern chemist to consult a dictionary to understand them. I desire to teach the best system and what is approved by the highest authorities. I shall use it myself, and recommend others to do the same. It will be something to boast of, if photographers should be more accurate than other men.

Unfortunately the nomenclature I have given, does not apply to organic substances. For these, ingenious systems of names have been proposed, but as yet no one so perfect as to be generally adopted. The organic substances, however, with which the photographer has to deal, are so few and so well-known that little inconvenience will come from the want of system. I will describe them in their proper place.

The nomenclature is the chemists' language, therefore in the beginning of the study of chemistry, it is absolutely essential that it be understood. So I think it worth while that I recapitulate all that I have said.——

Observe that the name of a compound indicates its composition, and that the compositition when known suggests the name; observe also that in the name the most active element is named first.

If two elements combine directly, the name of the compound is constructed by uniting the names of the elements by the word OF and changing the termination into IDE.

Example, chloride of silver ($AgCl$.) But if the compound of two elements be an ACID, the names of the elements are united directly without the connecting OF, and the termination of the last is changed to IC; and if the acid has oxygen as an element, the name oxygen is not expressed, but understood—also, if the same element unites with oxygen to form two or more acids, the names of the acids with the lesser proportions of oxygen terminate in OUS instead of IC.

Example, sulphydric acid, (HS), sulphuric acid (SO^3), sulphurous acid (SO^2).

The acids containing oxygen (oxyacids), combine with oxides. To name such compounds, change the termination of the acid from IC, to ATE, and from OUS to IDE and connect to the name of the base of the oxide, by the word OF.

Example, sulphate of iron (FeO,SO^3), sulphite of lead (PbO,SO^2).

To indicate the proportion (or number of equivelants,) of the first named element, the following prefixes are sometimes used Proto (1), Bi (2), Ter or Tri (3). Quadro (4), also the prefix Sesqui (3 to 2). These prefixes are chiefly used for the names of compounds terminating in IDE. In a similar way the prefixes Sub (least proportion), and Per (greatest proportion) are used.

I have finished now the dryest part of the whole undertaking,—most difficult for the learner, and most tiresome for myself. In future we shall get on more pleasantly, constantly observing things curious and useful. We have fairly crossed the threshold; the nomenclature was the *open sesame.*

A RARE CHANCE.

To the Editor of the American Journal of Photography.

Mr. Seely :—Allow me to suggest that there is a fine opportunity for any enterprising young man to make a fortune· All that is necessary, is that he should apply himself patiently to the business. The amount of capital required is not large, although if you would obtain the result in the shortest possible time, a larger amount will be necessary.

Your readers, no doubt, have often noticed the large number of cheap lithographs, plain and colored, which are to be met with all over the Union. They certainly cannot be considered works of art in any proper sense of tne term, yet notwithstanding, they have their admirers and patrons. They are sold, not by hundreds or thousands, but by tens of thousands, year after year. I have in my mind one firm in New York that have made a fortune by the sale of these pieces of colored paper, for they hardly deserve any other name.

Now, why might not some young photographer who has a business sufficient to keep him, but yet has considerable leisure, go to work and make a lot of negatives of various subjects landscapes, public buildings, historical and other subjects, in the same manner that the stereoscopes are made by the London stereoscopic company, by fitting up a room for the purpose.

Having collected a number of these negatives, they might be enlarged by the megascopic camera, to such a size as his taste or judgment may nictate, say 12+14, 14+20, or such other size as is most commonly sold, or that cheap frames might be easily got. These pictures might be colored cheaply and would be infinitely superior to those that are sold at present. There can be no doubt that the better article would soon replace the present class of pictures. They might be quite as cheap as those at present sold, but would be cheap enough to command a large sale, and would make an excellent decoration for our hotels, bar-rooms, ferry boats, railway stations, &c. &c.

The subjects, sizes, and the details it is unnecessary for me to enter into ; any one who thinks the matter over, will readily see that if they are produced in the way I suggest, the cost will be trifling. The subjects should be selected in series or groups, so that the sale of one would ensure the sale of another, while of course each would tell its own story.

For pictures not larger than the 4-4 size, of course they might be printed. Once the negatives are obtained, we have the matrix for making pictures of any size we require. Even the ½ size might be printed and colored; and I see no reason why they should not sell as well as the small pictures printed in colors. It is needless for me to occupy more of your space; but I hope some one will soon avail himself of my suggestion. Half a score of views of scenery in this state would alone repay any one the investment immediately.

W. B.

New Orleans, La., April 8th, 1859.

P. S: How long before we may expect that Treatise on Photography in your journal?

LE GRAY'S TONING PROCESS.

At the last meeting of the French Photographic Society, M. Le Gray made the following communication respecting his new method of toning positive prints:—

I find that since the publication of my process of toning positive prints with chloride of lime and neutral chloride of gold, many persons have tried it without getting such good results as I get myself.

That happens, I think, partly through want of practice, but principally through the strength of the bath which I indicated, and which acts so energetically that it is difficult to know exactly when to stop its action.

By employing the following formula, the process of toning is much slower, and therefore easier to regulate:—

Distilled water	1000	grammes,	(or parts)
Chloride of lime	1	"	"
Chloride of gold	1	"	"
Chloride of sodium	1	"	"

The print may remain half an hour in this bath, without injury; and as the toning takes place slowly it becomes easy to stop it when the desired tint is obtained.

I would observe that a bath of 2 litres, only containing a small quantity of chloride of gold, will not tone more than 20 prints of the size of a quarter of a sheet; more chloride of gold, and a pinch of chloride of lime, should then be added in order to restore its energy. But the tyro had better make a fresh bath at this stage. The permanence of prints toned in this way is very great, and the whites are pure, for while the gold is being precipitated upon the silver which forms the blacks, the colored organic matter of the paper is being bleached by the well-known action of the chloride of lime.

One of the chief causes of permanance is also the complete absence of free nitrate of silver from the fibres of the paper. In fact when a sheet of paper containing free nitrate of silver is put into a bath of hypo-sulphite of soda the nitrate decomposes the bath and produces sulphide and sulphate of silver in the interior and at the surface of the paper, which no washing will remove, and which salts are consequently a source of fading.

By previously putting the print into chloride of lime, the free nitrate is converted into chloride of silver, which being perfectly soluble in hypo-sulphite of soda, is therefore removed in fixing.

But since the quantity of free nitrate of silver in a print is considerable, two or three prints are sufficient to decompose the small quantity of chloride of lime in the toning bath, and therefore chloride of sodium (which is inert as regards toning propdrties,) is added in order to assist in the production of chloride of silver.

A great advantage of this process is that you can tell, when the print is dry, whether the chloride of silver has been all dissolved out—for if not, black patches are produced where any remains.

DEVELOPMENT AFTER FIXING.

BY M. DAVANNE.

Translated from the *Bulletin*.

Mr. Young, an English photographer, has shown that we may develope' a picture on albumen or collodio-albumen, in daylight by the ordinary agents, if we have previously fixed it in the dark by means of the hypo-sulphite solution which removes the whole of the iodide of silver.

This experiment which at first seemed strange, was worthy verification; accordingly M. Bayard and myself repeated it, and under circumstances somewhat different. M. Bayard after having fixed his glass, left it to dry in daylight till the evening, before he developed it; I developed mine in daylight soon after fixing.

The results obtained were sensibly the same; they confirm the experience of Mr. Young. The tones we obtain are somewhat different from those furnished by ordinary processes; they are much more red, the development is slower, but we still reach a great intensity.

On reflecting on the different reactions which may take place in this case, I have concluded that instead of opposing received photographic theories, this new process seems rather to confirm them, and permits us even to demonstrate the action of light on the concentrated film.

In a communicaction previously made to the Society, I suggested that the development proceeded, not from a subsequent reduction of the iodide of silver, but from a deposit which was made by virtue of molecular attraction. I cannot present a more convincing proof than that which Mr. Young gives, since he commences by removing the iodide of silver and then developes the image, producing a deposit on the glass.

It remains to demonstrate the cause of this molecular attraction attributed by some to a modification of the iodide of silver purely physical, by others to a commencement of separation between the elements iodine and silver, by the greater number to an invisible but real reduction of the iodide of silver, perhaps into a sub-iodide and then into metallic silver.

Mr. Young's experiment enables us to verify these hypotheses.

If the iodide of silver had only undergone a modification purely physical, its solution by the hyposulphite would destroy every trace of an image.

But if there is a reduction into metallic silver, the development in broad daylight is easily explained. The hyposulphite of soda would take away the excess of iodine, respecting the metallic silver, which provokes the development. If this is the case, every reagent which attacks metallic silver should destroy the image; now it is sufficient to treat a fragment of a proof with dilute nitric acid and slightly warmed, to effect the solution of the molecules of silver and prevent the development. The reaction will be the same with cyanide of potasium, a solution of iodine in iodide of potassium, because these bodies have an energetic action on metallic silver and soon attack it.

This experiment it is true, may be equally good if there were a sub-iodide of silver formed, and changed by the hyposulphite of soda into metallic silver and iodide of silver. But why complicate the reaction by the presence of a sub-iodide, which up to the present time has not been isolated, of which treatises on chemistry do not speak, and whose existence is at least problematical. And moreover the action of nitric acid is exactly the same before as after the hyposulphite of soda, and if we admit the presence of a sub-iodide it is at least probable, that the nitric acid would act only after the change by the hyposulphite.

It seems that now the photographic throng of negatives impressions may be enunciated in a very simple manner.

1st.—The reduction by light of a very small part of the silver salts to the state of metallic silver.

2d.—The development of the proof in consequence of the deposit of new molecules of silver, furnished by the developing bath, and attached by virtue of the moleuler attraction.

(Mr. Young's experiment may be verified with ordinary collodion.

If metallic silver were left after the hyposulphite, it could be seen. The microscope does not reveal a trace of the image.

Is the iodide *chemically* changed at all?

Does the impressed iodide impart its virtue to the enveloping film?)—Ed. Am. Journal.

EDITORIAL MISCELLANY.

——The fourth meeting of the Photographical Society will be held at the Cooper Institute, on Monday, May 9th, at 7½ P.M.

——We have frequently expressed our high estimation of Hardwich's Photographic chemistry, in comparison with other treatises on the subject. The fifth edition which has recently appeared, fully sustains all our expectations of changes and improvements. The book now comprises upwards of 500 pages, of which perhaps one third had not appeared in former editions. We quote from the preface: "In the first division of the work, it has been deemed advisable to include a sketch of the various printing processes by Sir John Herschel and others, to which attention has recently been drawn; and also, of the Photo-galvanographic, Photo-lithographic, Photo-glyphic and carbon printing processes. Those who are conversant with the proceedings of the French Society, will expect to find a *resume* of M. Niepce's researches "on a new action of light;" but the author after a careful comparison of the results with those previously obtained by Moser, and other experimenters, has decided to leave the subject for further investigation."

Dry collodion, and collodio-albumen, including the Fothergill process, receive a fair share of attention. The subject of the stereoscope is well handled.

The author has improved the practical character of his book, by the revision of many of his formulae; and it will gratify many of our readers to learn that Mr. Hardwich as well as other high authorities in Europe, are beginning to discover the merits of our American methods. The use of bromides in England is quite common, and Mr. Hardwich now insists on creamy and opaque films; and yet he adheres to the 30 grain bath! Also, it is recently discovered that sulphate of iron is an excellent developer!

Although Hardwich's chemistry has been a popular book in this country, it has not been praised as a guide in practice; its merits rest on the fact that it teaches the *science* of photography. It is by far the most comprehensive treatise extant, yet not quite what the times demand. Photography is now of sufficient consequence to exact the talent of our best chemists and cleverest writers. Let us have a substitute for Hardwich's chemistry, more perfect in scientific theory, without the tiresome rigidity of style and perplexing involutions of method.

Mr. Hardwich as might be supposed ignores, or quietly appropriates to his purpose all American contributions to the art. This might seem a little unfair, even unkind, when he almost invariably connects some English name with every trifling suggestion. But it is of little consequence; perhaps he can't help it. We reserve our — sentiment (!) for the editor of the Liverpool Journal.

———Will our subscribers please bear in mind that our next volume will commence on the first of June? We desire then to make various improvements in the form, size, and matter; and although we are well persuaded that the Journal during the past year has been well received, and has constantly grown in favor, we desire to do some things for our subscribers, which we shall not feel warranted to undertake without assurances of their co-operation and active assistance. We think we have a right to say this, and to assume that this journal is so identified with the art of photography that the profession ought to feel with us the ambition to make it of the very highest usefulness.

Will you please have the goodness to say to your neighbor that he ought to send for this journal? Tell him what value it has been to yourself, and what is hoped for the future. If your neighbor has conceit lay bare his ignorance,—drive it out of him, let him know how the world has moved without him.

Let us begin well on the 1st of June.

———The year 1859 will be memorable for the changes in New York. The commercial centre has been on the move for some time, but lately it seems to have taken a leap; the people, the houses, with all their bustle and noise, are on the march;—some day travelers will go down to Wall street, and write books about the ruins of temples. New York has lost its latitude,—the geographies are in error. Guide books of the city, printed only last year are obsolete.

Photographers have gone with the crowd. The places that knew them, know them no more. Take a map or a directory and calculate their ancient position; from that point on a line almost due north, and at a distance of about one mile, you will find them now, rejuvenated and blooming with hope.

Two years ago, many people thought us eccentric, fearing we were deserting our friends and our interests. But who has not followed us? What point *now* is nearer the centre of New York than our office? Almost every line of stages and cars in the city, pass by our door; the principal express offices are in sight.

Strangers in the city should make Canal street and Broadway, the starting point of excursions for business or pleasure.

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[NEW SERIES.]

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RECOLLECTIONS OF A DAGUERREOTYPE TRIP TO EUROPE.

BY SOL SKYLIGHT, ESQ.

St. Neot's—Journey to Lincoln.

My quarrel with the fat preacher, however dignified it may have been, was by no means politic, still, one does not like to be humbugged; those who humbug others, are just as adverse as those who act in good faith, and so all repudiate. I did not get any of the customers Mr. Druggert had calculated on, though quite certain he put in a good word when the opportunity offered, for independently of being a very decent fellow himself, it was his policy to try and make the business of his tenant pay, so that the tenant might pay also, but just as a man may be influential for good, so may he be also for evil, when his sole judgment is potent. The same breath that could say, " Skylight is a very gentlemanly person, and takes excellent pictures," could also, if willing, " hint a fault and hesitate dislike;" certain it is, I just cleared expenses, no object then in staying, for an itinerant must do more than that to pay travelling expenses, and take risks.

The want of conveniences had so far, induced me almost to abandon collodion proofs, the utmost I did was to take views of the opposite houses, and rub them out again. I unfortunately, was not ready to believe that collodion was to be of such necessity in photography: there was at that time no particular distinction between a positive and negative, no re-developing, and though Dr. Diamond and others were vigorously at work making experiments, photographs from collodion negatives, were by no means comparable with fine daguerrotypes. Adjournment having become necessary, the question of where to go was in order. After much cogitating, I resolved to put off to the city of Lincoln.

Cogitating is not always a proof of wisdom, or I should not have chosen so large a place for the next location, though a stay of some time was essential, but then I had not the experience that tells me that small places only, give a chance for temporary business, for there, people knowing the business must be temporary, satisfy their wants without delay, but in large places they suit their entire convenience. 'Tis no use telling them you only intend making a short stay, they know the population is large enough for a permanency, and each putting off the intended visit, assists in driving you away before business has barely commenced, then if anybody else is ready he had better pop in. However, I had so chosen, and began to prepare for the event.

The journey was fraught with no particular incident, the country being of the average kind of English landscape, slight hill and dale, highly cultivated. As we had to stay sometime in the ancient town of Petersborough, we took the opportunity of having an outside view of its handsome cathedral, and attending to an inside necessity in the shape of luncheon. The view continued of the same uninteresting interest, because though pleasing, it was all of a character, though doubtless some of those old country seats, and venerable villages had characters of their own, had there been a chorus present to describe them they might have been worthy recording. Not very far from Petersborough, though I don't remember how far, the magnificant parish church of Boston appeared in view. From the rail-road it seems to stand alone, with no inferior structures in its immediate vicinity, to detract from its grandeur, nor render it grander by their own insignificance. In reality, this splendid church, full of legendary interest, is situated on one side of a large open space used as a market place, one side of the church being open to the country and railroad. As the journey to Lincoln would be too much for Mrs. Skylight in one day, we resolved to stay for the night in Boston, and immediately after getting some refreshment, I sallied forth to see all to be seen during the limited stay we were about making. Boston being a very old town and with very little modern growth, has those narrow streets our ancestors seemed so oddly fond of, taking into consideration the cheapness of "town lots" in those days compared with the present; true, it is not very many centuries since public carriages, crowds of wagons, indicative of industry and enterprise, were in common use, yet light and health were just as important then as now, but they did not know as much as their worthy descendants; with land worth twenty times as much, both in actual and relative value, men afford to build wide streets, not because we are more liberal, but wiser. The market place is worthy any town, and the stores evidences of the present age. Over the Witham, and across the market space, was a handsome bridge. The Witham not being far from the sea is a tolerable stream, though a brig was the largest sailing vessel I saw, and the largest steamer was about the size of our smallest tow-boats. I was told there was a daguerreotypist in town, so of course went to see him. His "gallery" was a movable house, which took to pieces, and was capable of being easily carried away on a wagon, he was doing quite a large business, and well deserved it, for his pictures were equal to anything I had seen in London or New York, most of them were colored in that superior style that was common in first class galleries in London, but which we have not succeeded in introducing in New York. Mr. Sroney, was a dapper little fellow, somewhat of a fop and somewhat of a blower, as we forcibly and delicately express it now-a-days. He said he had other travelling wagons, and showed a daguerreotype of one which must have been a handsome affair; he made me quite regret that I had not the wherewithal to buy such an establishment, so I concluded I'd "wait for the wagon." On the railroads in the neighborhood of large agricultural fairs, and markets, the companies have very wisely arranged to offer inducements to visit the markets, by putting the fare very low on market days, a piece of information I received from the landlord of the railroad hotel, so getting up early in the morning, and paying our very moderate bill, we availed ourselves of the market train, for it was market day in Lincoln. The face of the country was now completely changed; for miles the land was of a walnut color, and as flat as a slate, where it appeared amidst the vegetation. Villages appeared in distant clusters, behind each other without obstructing the view, and village churches pierced the horrizon with their steeples; soon we came into the midst of the celebrated fens of Lincolnshire; now, no longer through flat and black, but rich and productive soil, the richest grain growing country in England. Aged men can well remember when it was dangerous to cross that dangerous place without a guide, when its miasmic air dealt death around, and people shuddered as they passed through it; in the civil wars it bid defiance to the troops that chased the partisan bands through its winding ways, for one false step into its muddy waters, or deceiving grasses, and the unfortunate would gradually sink out of sight, and be lost to the gaze of men forever. Yet the knowledge of men has recovered this land, which gives forth the staff of life, from whence were the jaws of death; the land had but to be drained, and human sustenance drawn from its miasmic marshes. On the outskirts of this fen, amidst the dark heather, stood the ruins of a tower and castle of historic recollections, which one of the farmers kindly gave me an account of, though I do not now even remember the name.

The farmers of Lincolnshire are a sturdy looking race; those we saw in the cars having generally the smiling face of apparent prosperity, yet they did not appear as athletic, nor had they the blue eyes and light Saxon locks, of the farmers of Bedford; there were traces of another race, though its origin may have been in the far back ages of the Norsemen, or Danish invaders.

Now appeared the busy appearance of the outskirts of a city on market day, and presently some one said Lincoln. I looked and in the distance saw an enormous building on top of a hill, which was not lost sight of until just entering the city, when the cars stopped, and looking up I saw the magnificent cathedral perched on top of the hill, seemingly a few rods distant, and ready to topple over in the first storm.

ON A NEW METHOD OF DARKENING COLLODION NEGATIVES.

BY HENRY DRAPER, M D. NEW YORK.

The protochloride of palladium offers a very advantageous means of darkening collodion negatives.

This substance is easily made by dissolving thin portions of palladium in nitro-muriatic acid. The action goes on very promptly, a dark, reddish brown solution forming. This is to be evaporated to dryness, taking care that the heat does not rise too high, so as to decompose the resulting chloride, but that it is long enough continued to remove the acid. The brownish residue protochloride of palladium is soluble in water, and in that state is fit for photographic use.

If we take a collodion picture in the moistened state which it presents when fixed with cyanide of potassium or hyposulphite of soda, and pour upon it a portion of this brown solution a change very quickly takes place, the picture gradually darkening, and assuming degrees of blackness corresponding to its own shadows and lights, which therefore remain relatively unchanged. In those points where the effect has gone on to a maximum, a velvety blackness is assumed altogether impervious to the light.

It is immaterial whether the picture has been a positive or a negative, the effect is the same, though less in the former than in the latter case. It is also immaterial whether it now be viewed by transmitted or reflected light, in both cases its various shades present a black appearance.

In the application of the protochloride to such a picture, it may be observed that if the solution is strong the full effect is reached almost in a moment. Prolonged exposure is needless, and indeed gives rise to no further effect. The excess of the solution may be poured off from one corner of the plate and so used over and over again till exhausted. As it becomes weak, the action goes on more slowly, and the operator should observe the precaution of examining the glass from the other side, to be certain from its blackening that the changes have pervaded the film through and through.

As I have said, the most advantageous time for employing the palladium is perhaps just after the picture has been fixed. It may, however, be used at almost any other stage. Indeed pictures that have been made for a long time may in like manner be blackened after previously moistening them in water, though this operation is perhaps less satisfactory.

The operator will find no difficulty whatever in this application of the protochloride of palladium. There is no risk that it will leave unpleasant stains or marks on the plate. In its action it is not only certain but clean, indeed he may perhaps be disposed to believe that in the transparent parts it exerts a good effect in cleaning off any trace of fogging that may hang about them. This however, is probably only in appearance, through the other portions becoming so intensely black. The quantity of solution consumed is quite insignificant, as many drops only being wanted as are necessary to flow over the surface of the plate when it is inclined from side to side.

The following simple experiment will illustrate the advantages arising from the use of this substance. Having prepared a collodion film in the usual way, I exposed it to the light of an Argand lamp at a distance of four inches in the camera slide, uncovering it by half an inch at a time, at successive periods of 4 minutes, 2', 1', 10 seconds, 5" 5". The stains in the collodion being developed in the usual way, I darkened one half of each of them by chloride of palladium, leaving the other half untouched. On printing from this plate, it was found that the stain blackened by the chloride and which had been exposed for 5 seconds to the lamp, was as effectual as the unblackened one which had been exposed to the lamp for 80 seconds. It may therefore be inferred that the opacity of pictures is increased 16 times by the use of protochloride of palladium.

It moreover exerts a good effect by increasing the adhesion to the glass, so that a picture which has been treated in this manner, will bear much rougher usage than one which has not and which remains unvarnished.

ON WASHING GUN COTTON.

BY H. GARBANATI.

Gun cotton is one of the most uncertain of all photographic chemicals, for though several samples may be made out of the same materials, and apparently under similar circumstances, no two exactly are alike. One of the conditions of good collodion is, that it shall be free from any other matter than that of which it is designedly composed.

I think that enough foreign substance is sometimes obtained in gun cotton to alter somewhat its character. After heavy rains, or even long continued dry weather, when the surface water is charged with animalculæ, &c., it is impossible to know what may cling to the fibres of the cotton. For instance, let us take the same quantity of water required to thoroughly wash gun cotton, and filter it through a piece of canton flannel and we will observe quite a quantity of intercepted matter, most of which would have otherwise clung to the cotton, and of course become part of the collodion.

Now this matter, little as it may be, might have an influence on the collodion which we could not take into consideration. It is therefore worth while to filter the washing water, since it may be done with no appreciable trouble, when one of the apparently equal circumstances, may be kept tolerably equal.

AMERICAN PHOTOGRAPHICAL SOCIETY.

FOURTH MEETING.

March 9th, the President, Dr. Draper presiding ;—

The Secretary was instructed to make up the record of the Society from its beginning, and present the report in full, at the next meeting.

Papers were read as follows :—

" On a Dry Collodion Process." By P. C. Duchochois, (See page 381.)

"On Preserving Albumenized Paper." By Joseph Dixon, (See page 382.)

" On Washing Gun Cotton." By H. Garbanati, (See page 376.)

" On a New Method of Darkening Negatives." By Henry Draper, M. D., (See page 374.)

" On some New Applications of Collodion Varnish," an oral statement made for E. K. Hough of Hillsboro, N. C.

The communications of Dr. Draper and Mr. Hough were accompanied with illustrative specimens which were examined by the members.

Mr. Seely made an oral communication of which the following is a synopsis: It has recently been shown that an undeveloped negative is capable of development after fixing. It therefore appears that the presence of iodide of silver is not necessary during development, and that the retaining film is somehow changed. I take it for granted that no iodide of silver or metallic silver, can be present to serve as a nucleus for development, when none can be detected by the microscope in practiced hands. It seems probable that the effect of light on the iodide of silver is only molecular, and that the effect is communicated to the film, which of itself is insensitive to light. The iodide of silver, and the sympathetic film, are chemically unchanged from the beginning to the end. Their action in development is catalytic.

Under the order of discussion of papers read—

Mr. Rutherford :—A good, dry process is the great desideratum. We cannot carry our dark room, and a convenient supply of water on an excursion ; the thought or sight of cumbersome apparatus and tents, is unpleasant to those who dislike trouble and to work hard for amusement. A dry process need not be so quick—but it is essential that it shall be simple and certain. Albumen results are good enough, but the process is too troublesome. It is proper for this society to make the subject of a dry process a conspicuous problem, and to encourage attempts at its solution. Mr. Rutherford concluded his remarks by moving that a prize of one hundred dollars be offered in the name of the society for the best dry process, offered for competition during the next months.

After some discussion, the subject was referred to the Board of Directors.

Mr. Boyle made some remarks on the colors of clouds and mists, especially with reference to the art of painting.

Mr. Seely in commending the paper read by Dr. H. Draper observed that the intensity of blackness, as shown by the specimens exhibited, was greater than that produced by the chloride of gold, or mercury, or the sulphides. If so, the chloride of palladium would soon come into use as a toning agent for transparent positives on glass. The photographic uses of the rarer metals should be studied. No doubt valuable qualities are to be found in substances not yet thought of. The metal uranium has recently come into quite extensive use in Europe. Mr. Burnet is entitled to most of the credit given to Niepce de St. Victor for the disovery of the properties of nitrate of uranium. The salts of uranium has excited little attention in America, for the reason that it was shown at an early day, that iron salts were possessed of the same properties, and could be substituted in all the uranium processes.

Dr. Deck :—There is difficulty in procuring palladium, especially of the desirable purity. It is not a commercial article, and but little is produced. It has been used by dentists and for the beams of balances. It costs about $7 per oz.

The President :—I have found the chloride of palladium very useful in producing photographs of microscopic objects.

In answer to a question, Dr. H. Draper, said that he had not observed that the chloride of palladium produced varieties of tint as obtained with chloride of gold, and sulphides. It acted very promptly, and gave only shades of blackness.

Dr. Vanderweyde described some of the ordinary methods of strengthening. He preferred a process in which iodine was used, as the thin iodide of silver negative was quite intense towards the chemical rays.

Mr. Seely :—I understand that at a recent meeting of the Farmer's Club, the opinion was emphatically expressed, that the moon has no influence on vegetation, and that the notions which some farmers have, that the moon should be consulted for the time of planting, was treated as unworthy of attention. I am not prepared to say what specific or observable action the moon might be expected to have on the growth or health of animals or plants; yet I do not think it improper to propose the question in this society. The physical action of the moon by virtue of gravitation, in producing tides in the seas and the air, is everywhere felt. May there not be a perceptible chemical action on the earth from the moon's rays? Mr. Rutherford gets a photographic impression of the moon in a few seconds. Are there undiscovered chemical peculiarities in moonlight? May there not be plants of such a delicate nature that they protect themselves from sunlight, come out by night, and thrive by the light of the moon? There are many animals, like the owl, that are wakeful only at night. The moon to such is what the sun is to us. I wish only to have it understood that some of those questions about the moon's influence, treated with so much contempt by scientific men, may yet be fairly asked again.

The President:—Ten years since, Mr. Hunt made experiments on the effect of light on the growth of plants, and came to the conclusion that the indigo ray favored the germination of seeds, while the yellow rays retarded it. After the plant has appeared above the surface of the ground, the illuminating or yellow rays, are essential to its healthy growth, enabling it to decompose carbonic acid, and to appropriate the carbon. In ripening, or producing seeds, the red rays are essential. Dr. Gardner has exhibited some very curious experiments to show that it is the indigo ray which determines the growth or turning of the plant towards light. Turnip seeds were planted in a box, which was kept in the dark. At the end of 48 hours, the plants had come up wiry and thin, of a sickly yellow hue, and standing erect and straight. The box being now placed in the solar spectrum, all the shoots soon turned towards the indigo ray. The plants might even be made to grow downward.

Moonlight in its degree, acts like sunlight. Sunlight is 200,000 times more intense. (In answer to a question). The maximum of chemical power is found in the indigo, and not in the violet, as stated by some.

The common crocus is a plant which is remarkably sensitive to light. Cover it with your hat and the leaves fold up, let the light fall on it again, and they open so rapidly that you may see them move.

Dr. Deck ;—It is well known that tadpoles kept in the dark do not change to frogs, but continue to grow as tadpoles, till they become monsters in size. On the contrary, if, while young, they are exposed to an excess of light, I suppose they will become frogs prematurely. The stories of showers of frogs, are often ranked with stories of sea serpents and mermaids. But I have witnessed a veritable frog shower, when hundreds of bushels came down. The frogs were none of them alive, and were remarkably small. I suppose the frog spawn was carried up by a water spout, and under the influence of the light and air, the tadpoles were prematurely changed to frogs.

Mr. Tillman :—At an exhibition of fireworks in commemoration of the completion of the Ridgwood water works, a very curious and novel effect of colored light was produced. As the director of the display is a member of the society, we may expect some account of it at our next meeting. The art of pyrotechny is fairly within the scope of our discussions. What is the best procession of colors to produce the highest effect? How best to combine poetry of colors and dramatic action? Who can foretell the effects which will hereafter be produced by overtures of variegated lights?

At this point, a very entertaining discussion ensued on the turning of the sunflower toward the light. Although many of the members engaged in it, the subject elicited more wit and poetry than scientific truth. It was a refreshing episode.

Mr. Snelling reminded the society that Mr. Archer and others in England, had removed collodion films for the same purpose as proposed by Mr. Hough.

Mr. Seely :—Mr. Hough is aware of the fact. He offers an impoved process. He is the first to propose the removal of the excited film.

A gentleman in the audience, and not a member of the society, occupied a considerable time in endeavoring to convince the society, that he had perfected a valuable and wonderful process of transfering ambrotypes to paper.

Mr. Tillman :—Will the gentleman communicate some details of his invention to the society, or exhibit specimens?

The gentleman :—The process has cost me a great deal of money, time, and study; I do not propose to give it away.

Mr. Seely :—Whether an inventor shall gives his ideas to the public, or sell them, is a question for himself to settle.

We cannot blame him for the decision he makes. In the society we publish discoveries; we must not make it a market place. Let this be the occasion for determining our course for the future, so that there shall be no misunderstanding.

The subject elicited considerable feeling all in the same direction, and after remarks by various members, the sentiment of the society was expressed by the unanimous adoption of the following resolution presented by Mr. Stetson;—

Resolved,—That this society desires and expects, that in every instance where either members or guests claim to be in possession of improvements, either the new results or the details of the invention, or both, be given to the meeting.

Adjourned to the second Monday in June.

In the report of the April meeting, owing to its too hasty preparation from very brief notes, there are a few sentences which failed to convey the sentiments of the speakers. Our readers will please to see how difficult without much study and practice, it is to condense the spirit and effect of a discourse into a few words.

The photograph exhibited by the President at that meeting was not on chlorophyl but on guiacum. It is blue in the shades, and pale yellow in the high lights; these having been its original tints, and they are still unchanged. It was introduced to illustrate the fact, that in the action of light on some vegetable colors, a complete bleaching does not ensue, but a residual color is left. In chlorophyl, though the bright green may be destroyed by light, a tawny yellow remains.

The President's remarks concerning the relation of complementary colors, were to the import, that in the action of light on vegetable colors, each ray bleaches or destroys its complementary tint. On this principle it perhaps might be possible to obtain photographs in colors according to nature, there being this relationship between the acting color and the color destroyed.

A NEW DRY COLLODION PROCESS.

BY P. C. DUCHOCHOIS.

All the preservatives for the dry sensitive collodion film, have some defects too well known to be described again. The principal of them is certainly to destroy to some extent the sensitiveness of the plate. I believe the process I have the honor to communicate this evening, retains better all the sensitiveness of dry preparations, and gives more easily a good intensity to the negative than any other I know.

The process is.

1st.—Immerse after washing the sensitive film, in a solution made by boiling three or four hours, one pound of liquorice roots in half a gallon of water, evaporating to 30 ounces, adding 3 ounces of alcohol, and filtering—the liquid is used cold.

2d.—After exposure, immerse the plate in

Water	1 ounce.
Nitrata of Silver	20 grains,
Acetic acid, No. 8	5 drops.

This renders the glycyrhyzine insoluble, and prepares the film for a more even development.

3d.—Develope with a saturated solution of gallic acid in water, to which is added, little by little, during the development, a quantity of the above solution of nitrate of silver, which is judged necessary to bring out the impression.

The collodion I use for the dry process is prepared according to the formula I gave some months ago in the American Journal of Photography. I have however made some modification in it, for the addition of ammonia destroys the properties of pyroxyline, to such an extent that a very thick centratile plain collodion in less than a month becomes very fluid, settles in giving a rotten, horny, and opaque film, which splits in little networks.

These defects are easily prevented by preparing the collodion as follows:—

First make the collodion with three parts of ether, two parts of alcohol, ¼ minim of ammonia, and 2½ grains of pyroxyline to the ounce. After 4 or 5 hours neutralize the free ammonia with two drops of bromhydric acid, then add 3 grains to the ounce of pyroxyline.

ON SENSITIZING ALBUMENIZED PAPER.

BY JOSEPH DIXON.

Those who have used albumenized paper have invariably experienced difficulties not encountered in the use of the paper commonly employed in photography. Albumenized paper sensitized with the nitrate of silver, will, in the course of two or three days gradually become brown. This result is injurious to the white portions of the picture, and although it may in a great measure be removed in the toning bath, it is always accomplished at the expense of the finer tints. Albumenized paper, more particularly, should be used immediately after it is sensitized, but there are many cases occurring in which this condition cannot be complied with. Suppose for instance, a large number of sheets are prepared at once, but before they can be used, several dark cloudy days intervene, when the paper will be found to have assumed a brown shade and be almost worthless. The cause of this singular behavior, is sulphur existing in the albumen. The chloride of silver is readily decomposed when combined with organic matter, and in the present instance, the gradual formation of the sulphide of silver is shown by the darkening of its characteristic brown color until it verges upon a black.

After a great number of experiments made for the purpose of avoiding this vexatious difficulty, I have arrived at the desired result by the use of the following simple preparation, viz; One ounce of the nitrate of silver, dissolved in eight ounces of water, to which is added one drachm of nitric acid; on this the paper is floated for two or three minutes. It is then hung up and dried in the usual manner, and afterwards placed in a portfolio, where it may remain without deterioration for six or eight weeks. My usual practice is after printing, to pass the paper through a bath of chloride of sodium, which converts the free nitrate into a chloride and thereby prevents injury to the toning bath.

COLLODION VARNISH.

HILLSBOROUGH, N. C., May 1, 1859.

Mr. C. A. Seely; Dear Sir:—I had thought before this I would send you a specimen of a new kind of picture, something in the nature of a transfer made with collodion, but not having suitable cotton prevented me.

While in Petersburg, I made some plain alcoholic collodion with some cotton I found there, and covered a half size picture with eight or ten coatings of this varnish, when placing it in water, it came off the glass in a strong transparent film which did not curl, but looked and felt like silk paper.

Before I had time to make a series of experiments, I moved and my varnish gave out.

But I have been thinking possible it might be made useful in some such way as follows.

And as you have all the appliances and chemicals, I would like you to try the experiment I suggest, (if you think them worthy your attention), and inform me of the result.

As you know better than myself there has been considerable trouble in getting negatives of distant scenery, from the difficulty of carrying, glass plates and the calotype, and waxed paper processes have been substituted in many cases.

Now, could not negatives be preserved in this way, where views are taken with wet collodion on the spot. By coating the picture after taken and dried, with collodion varnish until it could be removed in a strong film, and preserved in a portfolio and when necessary to print could be made to adhere to glass again by plain collodion, or even water, then varnished as usual.

Or a glass could be coated at home with several coats of plain collodion, then with iodized alcoholic collodion or iodized albumen, sensitized as usual, dried and removed, then preserved in a portfolio until exposed, when it could be made to adhere to a glass sufficiently by water, then removed and again preserved until returned.

I am aware of difficulties in the last process, that the film might be loosened and come off while sensitizing and washing, but if the process should prove of any real advantage, I think these might be overcome.

If these ideas should prove of any value, give me the credit, and if none don't laugh at me for making such a hobby of my " one idea."

Yours very respectfully,
E. K. Hough.

COLLODION FROM CELLULOSE.

BY M. D. VAN MONCKHOVEN.

The discovery of M. Schweitzer, recently detailed in this Journal, of a new solvent for cellulose, has excited much interest among photographers, in the hope that a new collodion would be obtained, in which cellulose would replace gun-cotton. The experiments of an eminent scientific photographer. M. Van Monckhoven, leads us to hope that this desirable result is arrived at. He dissolved recently precipitated oxide of silver in the cupro-ammoniacal solution of cellulose, and spreading the liquid on a glass plate, put it when dry into dilute hydriodic or hydrobromic acid. A white layer of iodide or bromide of silver is formed, but it was impossible to obtain a clear and transparent image upon it. A continuous layer of reduced silver is formed beneath the layer of cellulose, and the superficial image is lost. The same results attended the employment of the ammoniacal deuto-bromide of copper $(2\,Cu.\,Br, 5\,N\,H^3)$ and the ammoniacal iodide $2\,(N\,H^2), Cu\,I, 3\,H\,O$, a brown veil of metallic silver always formed beneath the image. These results are named to warn others against undertaking useless experiments.

The methods that succeeded are as follows;—

The ammoniacal solution of deutoxide of copper is prepared either by saturating concentrated ammonia by oxide of copper recently prepared, or in employing the method of M. Peligot, which is much the simplest.* When the solid impurities are quite settled, dissolve cotton in the liquid in the proportion of eighty-five grains to the pint. A thick liquid results, which is gradually diluted with water, until all the cotton is dissolved. Then a concentrated solution of iodide of potassium is added, so that thirty-five ounces of the solution of oxide of cupro-ammonium will contain from seventy-five to one-hundred-and-fifty grains of iodide. It is this mixture with which the glass plates are coated.

All the beauty of the proof will depend upon the preparation of the cupro-ammoniacal liquor, which must be thick, so that it flows slowly over the glass plate, and it must be quite transparent when dry. If the fluid is too thin the image will be superficial, without intensity, and will be washed away under a stream of water.

The ammoniacal solution, when poured on the glass, should spread itself evenly; it evaporates slowly; when the excess of the liquid is drained off, the plate is set against the wall. Two modes of operating next present themselves.

1st. After the plate has been allowed to evaporate a few minutes only, the coating becomes opalar, and an excess of liquid falls to the lower edge of the glass, which must be removed by a piece of tissue paper; the plate is then immersed in the nitrate of silver bath, to which recently precipitated acetate of silver and acetic acid are added. The coating becomes white, as in the usual method, by the iodide of silver formed; it is then exposed in the camera, and afterwards developed as in the ordinary process.

2nd. If, on the other hand, the plate is allowed to become quite dry, the ammonia being quite eliminated by evaporation, the ordinary reaction of the alkaline iodides upon the salts of the deutoxide of copper takes place; that is, protiodide of copper $(Cu.\,I)$ is formed in the layer of cellulose, and iodine on the surface. Such a plate becomes red when dry. Plunged in the nitrate of silver bath, it yields a superficial picture, which the slightest washing removes, and metallic silver is formed under the image, through the presence of proto-iodide of copper. But as this method will be preferred by photographers on account of its simplicity, a remedy for its inconveniences may be found by passing the plate into a bath of anhydrous alcohol, into which a current of dry ammoniacal gas has been driven. The free iodine is transformed into iodide of ammonium, and aldehyde is formed :—

$21 + 2\ NH^3 + C^4\ H^6\ O^2 = 2\ NH^4\ I + C^4\ H^4\ O^2$

The plate becomes white after an immersion of a few seconds. On removing it from the bath, it must be agitated in the air, so as to remove the excess of ammonia by evaporation ; then plunged, humid as it is, into the nitrate of silver bath; afterwards proceed as in the ordinary method. In this may be obtained proofs of very fine quality, transparent, and free from spots.

It is certain that cellulose may supersede gun-cotton in collodion, to the great gain to photography in simplicity, economy and excellent results.—EXCHANGE.

EDITORIAL MISCELLANY.

——With the present issue we complete our year's labor. The uncertainties of the critical period of our existence are resolved ; the hopes and fears are all gone, and in their place we find substantial facts.

We close this volume complacently ; we look upon it with a good degree of satisfaction. Here is the record of photography in America, of the thoughts and acts of our most capable men This journal has been looked to at home and abroad, for counsel and knowledge. Our subscribers and contributors are found in all quarters of the globe; there is no spot where photography is cultivated as a science, which this Journal has not reached. A journal of photography is not like a newspaper, which loses its value in a day ; it is the record of a science unfolding, a record to be preserved forever.

For the great utility and the high character of the Journal, we concede our sincere obligations to our contributors and correspondents; without their assistance we had no power.

To our contributors and our friendly subscribers we offer our humble but sincere thanks.

We shall open our new volume hopefully. Our contibutors and our subscribers will still be with us,—And others.

There are yet thousands who will esteem it a favor to be reckoned among us as subscribers. Will our friends kindly assist us to find them out?

The editorship of this journal is by no means a sinecure, and there is no disposition to make it such; every success shall be for the general good. *Au revoir.*

——Editor Shadbolt of the Liverpool, etc. Photographic Journal, indulges in a little pleasantry at the expense of his New York correspondent, and intimates that he would have believed certain statements "Hibernian," did he not know they were written by an American. We are happy to inform the editor that no countryman of ours could be found to do the work of American detraction so effectually as his present doleful correspondent who hails from 'the Land o' cakes." To be consistent, he should leave this benighted region and once more " stand upon his native heath."

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